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When we have the stars?*





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PROCEEDINGS
OF THE
AMERICAN ASSOCIATION OF MUSEUMS

VOL. X

1916

PROCEEDINGS
OF THE
AMERICAN ASSOCIATION OF MUSEUMS

RECORDS OF THE ELEVENTH ANNUAL MEETING
HELD IN WASHINGTON

MAY 15-18, 1916

CHARLESTON, S. C.

1916

EDITED BY
PAUL M. REA, SECRETARY
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CHARLESTON, S. C.

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1916-1917

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PROCEEDINGS
OF THE
Eleventh Annual Meeting
OF THE
American Association of Museums
HELD IN WASHINGTON
May 15-18, 1916

SESSION OF MONDAY, MAY 15

Morning

The opening session of the convention was called to order in the New Willard Hotel by President Oliver C. Farrington, who introduced Dr. Charles C. Walcott, secretary of the Smithsonian Institution. Dr. Walcott extended a very hearty welcome, to which the President responded on behalf of the Association.

The roll of attendance was then called by the Assistant Secretary and the following is a list of those present:

ROLL OF ATTENDANCE

Miss Edith R. Abbot, Metropolitan Museum of Art, New York City.
Mr. Serafino Agostini, Carnegie Museum, Pittsburgh, Pa.
Miss L. L. Austin, Erie, Pa.
Mr. Thomas L. Austin, Erie Public Museum, Erie, Pa.
Mr. Alfred Bailey, State University of Iowa, Iowa City, Iowa.
Dr. Edwin AtLee Barber, Pennsylvania Museum and School of Industrial Art, Philadelphia, Pa.
Dr. Thomas Barbour, Museum of Comparative Zoology, Cambridge, Mass.
Mrs. Blanche W. Baxter, Museum of Fine Arts, Syracuse, N. Y.
Miss Viola M. Bell, Teachers College, New York City.
Mr. Paul Brockett, Smithsonian Institution, Washington, D. C.
Mr. Harold H. Brown, John Herron Art Institute, Indianapolis, Ind.
Mr. Clyde H. Burroughs, Detroit Museum of Art, Detroit, Mich.

- Mr. Newton H. Carpenter, Art Institute of Chicago, Chicago, Ill.
Mrs. Newton H. Carpenter, Chicago, Ill.
Mr. Mitchell Carroll, Washington, D. C.
Miss Lotta A. Clark, Normal School, Boston, Mass.
Mr. Louis Coggeshall, Carnegie Museum, Pittsburgh, Pa.
Miss Louise Connolly, State Museum, Trenton, N. J.
Mr. Thomas J. Connor, Philadelphia Museums, Philadelphia, Pa.
Dr. A. R. Crook, Illinois State Museum of Natural History, Springfield, Ill.
Dr. Carlos E. Cummings, Buffalo Society of Natural Sciences, Buffalo, N. Y.
Mrs. Carlos E. Cummings, Buffalo, N. Y.
Dr. Joseph A. Cushman, Boston Society of Natural History, Boston, Mass.
Mr. John Cotton Dana, Newark Museum Association, Newark, N. J.
Mrs. D. W. deVeer, Oakland Public Museum, Oakland, Cal.
Prof. Homer R. Dill, State University of Iowa, Iowa City, Iowa.
Mrs. Jeannette M. Diven, Arnot Art Gallery, Elmira, N. Y.
Dr. Oliver C. Farrington, Field Museum of Natural History, Chicago, Ill.
Dr. G. Clyde Fisher, American Museum of Natural History, New York City.
Mr. William L. Fisher, Philadelphia Museums, Philadelphia, Pa.
Miss Helen W. Foster, Newark Museum Association, Newark, N. J.
Mr. Dwight Franklin, New York City.
Miss Anna B. Gallup, Children's Museum, Brooklyn, N. Y.
Miss Eloise Gerry, Forest Products Laboratory, Madison, Wis.
Mrs. Emily G. Gibson, Cleveland Museum of Art, Cleveland, Ohio.
Mr. Benj. Ives Gilman, Museum of Fine Arts, Boston, Mass.
Mr. Robert Glenk, Louisiana State Museum, New Orleans, La.
Miss Delia Isabel Griffin, Children's Museum of Boston, Jamaica Plain, Mass.
Dr. Joseph Grinnell, Museum of Vertebrate Zoology, University of California, Berkeley, Cal.
Mr. Samuel Henshaw, Museum of Comparative Zoology, Cambridge, Mass.
Dr. W. J. Holland, Carnegie Museum, Pittsburgh, Pa.
Dr. Arthur Hollick, Museum of Staten Island Association of Arts and Sciences, New Brighton, N. Y.
Mrs. Arthur Hollick, New Brighton, N. Y.
Dr. Walter Hough, United States National Museum, Washington, D. C.
Miss Winifred E. Howe, Metropolitan Museum of Art, New York City.
Mr. Henry R. Howland, Buffalo Society of Natural Sciences, Buffalo, N. Y.
Mr. D. C. Hughes, Carnegie Museum, Pittsburgh, Pa.
Miss Margaret Talbot Jackson, Minneapolis Institute of Arts, Minneapolis, Minn.
Mrs. W. L. Jackson, Boston, Mass.
Mr. Charles W. Johnson, Boston Society of Natural History, Boston, Mass.
Mr. Henry W. Kent, Metropolitan Museum of Art, New York City.
Miss Mary L. Kissell, New York City.
Mr. Frederick L. Lewton, United States National Museum, Washington, D. C.
Mr. Thure H. Lindberg, Snead & Company Iron Works, Jersey City, N. J.
Mr. H. L. Madison, Park Museum, Providence, R. I.
Miss Eva W. Magoon, Park Museum, Providence, R. I.
Mr. Levi W. Mengel, Reading Public Museum, Reading, Pa.
Dr. C. Hart Merriam, California Academy of Sciences, San Francisco, Cal.

- Prof. William C. Mills, Ohio State Archaeological and Historical Society, Columbus, Ohio.
- Mr. Roy W. Miner, American Museum of Natural History, New York City.
- Miss Frances Morris, Metropolitan Museum of Art, New York City.
- Mrs. Mary B. Morris, Brooklyn Museum, Brooklyn, N. Y.
- Mr. John W. T. Nichols, New York City.
- Miss Maude I. G. Oliver, Art Institute of Chicago, Chicago, Ill.
- Miss Florence V. Paull, Museum of Fine Arts, Boston, Mass.
- Mr. Henry H. Paull, Boston, Mass.
- Miss Clara N. Perine, Wistar Institute of Anatomy, Philadelphia, Pa.
- Mr. Albert Hastings Pitkin, Wadsworth Athenaeum, Hartford, Conn.
- Miss Agnes L. Pollard, Museum of Staten Island Association of Arts and Sciences, New Brighton, N. Y.
- Mr. Sydney Prentice, Carnegie Museum, Pittsburgh, Pa.
- Mr. Edward D. Putnam, Municipal Museum, Rochester, N. Y.
- Mrs. Edward D. Putnam, Rochester, N. Y.
- Dr. Richard Rathbun, Smithsonian Institution, Washington, D. C.
- Mr. W. deC. Ravenel, United States National Museum, Washington, D. C.
- Mr. Paul M. Rea, Charleston Museum, Charleston, S. C.
- Miss May Redd, Department of Fine Arts, Carnegie Institute, Pittsburgh, Pa.
- Mr. Boyd P. Rothrock, Pennsylvania State Museum, Harrisburg, Pa.
- Mrs. Boyd P. Rothrock, Pennsylvania State Museum, Harrisburg, Pa.
- Mr. E. G. Routzahn, Russell Sage Foundation, New York City.
- Mr. Louis Earle Rowe, Rhode Island School of Design, Providence, R. I.
- Mr. Julius F. Sachse, Museum of the Grand Lodge of F. and A. M. of Pennsylvania, Philadelphia, Pa.
- Mr. Harold R. Sampson, Library Bureau, New York City.
- Mr. Herbert E. Sargent, Kent Scientific Museum, Grand Rapids, Mich.
- Miss Margaret E. Sawtelle, Worcester Art Museum, Worcester, Mass.
- Mrs. Laura W. L. Scales, Museum of Fine Arts, Boston, Mass.
- Mr. Rudolph M. Schiele, Philadelphia Museums, Philadelphia, Pa.
- Mr. Frank H. Severance, Buffalo Historical Society, Buffalo, N. Y.
- Mrs. Frank H. Severance, Buffalo, N. Y.
- Miss Anna D. Slocum, Jamaica Plain, Mass.
- Miss Laura Slocum, Jamaica Plain, Mass.
- Dr. Leonhard Stejneger, United States National Museum, Washington, D. C.
- Dr. James E. Talmage, Deseret Museum, Salt Lake City, Utah.
- Miss Ann E. Thomas, American Museum of Natural History, New York City.
- Mr. Charles R. Toothaker, Philadelphia Museums, Philadelphia, Pa.
- Mrs. Agnes L. Vaughan, Metropolitan Museum of Art, New York City.
- Mr. Henry L. Ward, Public Museum of the City of Milwaukee, Milwaukee, Wis.
- Mr. Henry S. Ward, Milwaukee, Wis.
- Miss Laura L. Weeks, Charleston Museum, Charleston, S. C.
- Miss Alice W. Wilcox, Fairbanks Museum of Natural Science, St. Johnsbury, Vt.
- Dr. W. P. Wilson, Philadelphia Museums, Philadelphia, Pa.
- Miss Beatrice Winsor, Newark Museum Association, Newark, N. J.

The report of the Secretary was presented as follows:

REPORT OF THE SECRETARY

Your Secretary has the honor to submit the following report for the year ended May 15, 1916:

Because of the fact that the San Francisco meeting was not held until July, and was at such a distance from the home office, it was not possible to prepare the *Proceedings* for the printers until the fall. They were published late in December, 1915.

Five new sustaining members and thirty-five new active members have been approved by the Council during the past year, as follows:

NEW MEMBERS

Sustaining Members

Battle Creek Public School Museum, Battle Creek, Mich.

California Academy of Sciences, San Francisco, Cal.

Park Museum, Providence, R. I.

Smithsonian Institution, Washington, D. C.

Toledo Museum of Art, Toledo, Ohio.

Active Members

Dr. Hector Alliot, Curator, The Southwest Museum, Los Angeles, Cal.

Dr. W. W. Atwood, Secretary, Chicago Academy of Sciences; Trustee, Children's Museum of Boston. Address: Harvard University, Cambridge, Mass.

Mr. Alfred Bailey, Student in Taxidermy, State University of Iowa, Iowa City, Iowa.

Mr. William Berwick, Restorer of Documents, Library of Congress, Washington, D. C.

Mr. Herbert Bolton, Director, Bristol Museum and Art Gallery, Bristol, England.

Mr. Solon J. Buck, Superintendent, Minnesota Historical Society, St. Paul, Minn.

Miss Lotta A. Clark, Normal School, Boston, Mass.

Mr. Robert E. Cowan, Historian, 867 Treat Avenue, San Francisco, Cal.

Prof. Byron Cummings, Director of the Museum, University of Arizona, Tucson, Ariz.

Mr. Frank S. Daggett, Director, Museum of History, Science, and Art, Los Angeles, Cal.

Mrs. D. W. deVeer, Acting Curator, Oakland Public Museum, Oakland, Cal.

Miss Lucy C. Driscoll, Assistant to Director, Art Institute of Chicago, Chicago, Ill.

Mr. Robert G. Eberhardt, In charge Mrs. A. B. Spreckels' Museum, 2042 Vallejo St., San Francisco, Cal.

Dr. Barton W. Evermann, Director, California Academy of Sciences, San Francisco, Cal.

Mr. Eugene J. Fischer, Preparator, Museum of History, Science, and Art, Los Angeles, Cal.

- Dr. G. Clyde Fisher, Assistant Curator, Department of Public Education, American Museum of Natural History, New York City.
- Mr. Dwight Franklin, Preparator of Ethnological Groups, 1947 Broadway, New York City.
- Mr. E. W. Gifford, Associate Curator, Anthropological Museum, University of California, San Francisco, Cal.
- Mr. Morris Gray, President, Museum of Fine Arts, Boston, Mass.
- Mrs. Herman J. Hall, Museum Instructor, Art Institute of Chicago, Chicago, Ill.
- Dr. Walter Hough, Curator of Ethnology, United States National Museum, Washington, D. C.
- Miss Mary Lois Kissell, Formerly with American Museum of Natural History. Address: 423 W. 120 St., New York City.
- Dr. Charles W. Kollock, Secretary, The Charleston Museum, Charleston, S. C.
- Mr. Thure H. Lindberg, Sneed & Company Iron Works, Jersey City, N. J.
- Dr. W. D. Matthew, Curator of Vertebrate Paleontology, American Museum of Natural History, New York City.
- Mr. Clarence S. Paine, Secretary, Nebraska State Historical Society, Lincoln, Nebraska.
- Capt. Thomas Pinckney, President, The Charleston Museum, Charleston, S. C.
- Count G. N. Plunkett, Director, National Museum of Science and Art, Dublin, Ireland.
- Miss Theodora Pollok, Late Assistant, Newark Museum Association. Address: 809 Scenic Ave., Piedmont, Cal.
- Mr. A. E. Reynolds, Trustee, Colorado Museum of Natural History. Address: 830 Equitable Building, Denver, Col.
- Mr. Jesse Sharpe, Treasurer, The Charleston Museum, Charleston, S. C.
- Mr. George W. Stevens, Director, Toledo Museum of Art, Toledo, Ohio.
- Capt. Samuel G. Stoney, Trustee, The Charleston Museum, Charleston, S. C.
- Miss Ann E. Thomas, Assistant in Department of Public Education, American Museum of Natural History, New York City.
- Prof. J. A. Udden, Director, Bureau of Economic Geology, Austin, Texas.

The Association has lost by death four active members: Dr. Frederick B. McGuire, director of the Corcoran Gallery of Art and a charter member of the Association, died December 11, 1915. Dr. Frederick W. Putnam, honorary director of the Peabody Museum at Harvard University, professor emeritus of anthropology at the University of California, and a charter member of the Association, died August 14, 1915. Capt. Thomas Pinckney, president of the Charleston Museum, died November 15, 1915. Dr. William J. Brinckley, assistant in the departments of geology and vertebrate zoology in the Public Museum of the City of Milwaukee, died May 1, 1916.

One sustaining member and eight active members have been dropped from the rolls for two years' delinquency in dues. One sus-

taining member and four active members have resigned. There is thus a net increase of three sustaining and nineteen active members.

There are now one sustaining and twelve active members in arrears for dues for two years. These will have to be dropped from the rolls in accordance with the rules of the Association. One sustaining and eighteen active members are in arrears for dues for one year. There were last year one sustaining and twenty-one active members in arrears for one year. The sustaining member is now two years in arrears and about to be dropped. Of the active members, one has died, two have resigned without payment of their arrears, twelve are now two years in arrears and about to be dropped, and six have paid. If we have the same experience with the active members now in arrears, we may expect to retain four, and to lose fourteen. This means that during the coming year we must obtain at least one sustaining member and fourteen active members to replace losses other than those by death.

At the San Francisco meeting the Secretary and Dr. James E. Talmage were appointed delegate and alternate respectively, to represent the Association at the Second Pan-American Scientific Congress in Washington December 27, 1915 to January 8, 1916, and the Secretary was instructed to endeavor to obtain a place on the program of the Congress for the presentation of a paper upon some phase of the educational work of American Museums. The Secretary was prevented at the last moment from attending the Congress, but Dr. Talmage represented the Association and will submit a report later in this session. The Secretary was unable to arrange for the presentation of the paper already referred to.

A resolution calling upon the Powers signatory to the Hague Convention of 1907 to adhere strictly to Article 56 of that convention was adopted by the Association at the San Francisco meeting, and referred to the Council to be forwarded to the proper authorities for action. In accordance with a vote of the Council, the Secretary forwarded a copy of this resolution to the Secretary of State and received an acknowledgment stating that the resolution would receive due attention and be placed on file in the archives of the department.

Respectfully submitted,

PAUL M. REA, *Secretary*.

The report of the Secretary was accepted and ordered incorporated in the *Proceedings*.

In the absence of Treasurer W. P. Wilson, his report was read by the Assistant Secretary and referred to an auditing committee appointed by the Chair. This committee, consisting of Messrs. William C. Mills, Homer R. Dill, and Joseph Grinnell, reported at a subsequent session that the Treasurer's accounts had been examined and found correct.

Secretary Rea presented an informal report on behalf of the Commission for Museum Cooperation, stating that, although the Commission had not had sufficient funds for the active prosecution of all the work it would like to undertake, it had been able to devote some money to traveling expenses and stenographic assistance for the development of its work and for the formulation of more definite plans for the future. These expenditures had facilitated the work of the Association and made possible a continuation of the general studies of museums which have been the basis of the annual reports made to the Bureau of Education on the "Educational Work of American Museums" and of other studies to be presented later in the session.

Secretary Paul M. Rea then presented a special report on the condition and needs of American museums, as follows:

CONDITION AND NEEDS OF AMERICAN MUSEUMS

The experience of a national association necessarily throws much light upon the progress of the institutions it represents. The tenth anniversary of the founding of the American Association of Museums, therefore, is a fitting occasion to review its achievements and, more especially, to consider its future activities in relation to the present condition and needs of American museums.

Organized in New York City, May 15, 1906, the Association has held annual meetings which have been of great value to the members participating, both through the papers and discussions of the formal sessions, and through the personal acquaintance and interchange of ideas which have always been among the most enjoyable features of our conventions. The custom of meeting in a different city each year also has assisted our members in maintaining a general familiarity with museum development throughout the country.

The membership of the Association in 1907 included 26 sustaining members and 135 active members. It contains today 54 sustaining members and 263 active members, representing a total of 155 museums.

The *Proceedings* of the Association, published annually since 1907, have made our papers and discussions permanently available, not only to those who have participated in the meetings, but to museum workers everywhere, and now constitute our best manual of museum practice.

One of the most important services performed by the Association was the preparation of a *Directory of American Museums*, published in 1910 through the generous cooperation of the Buffalo Society of Natural Sciences. This *Directory* made accessible, for the first time, information regarding the staff, collections, library facilities, finances, history, and general activities of museums throughout North and South America. There is evidence that this book, although now somewhat out of date, is more generally consulted as a reference work than at the time it was first published.

The publication of the *Directory* has been followed by further studies of museum problems from a national point of view. Some of the results of these studies have been published as annual reviews of the educational work of American museums in the reports of the United States Commissioner of Education.

In December, 1913, the Association established a special Commission for Museum Cooperation "for the purpose of gathering and collating helpful information and diffusing the same among museums." Although hampered by lack of funds the Commission has been able to accomplish enough to demonstrate that the need for this work is now more apparent and more urgent than ever before. It concerns the welfare of the Association and of all museums, and is best considered in connection with a general analysis of the present condition and needs of American museums. Such an analysis is therefore submitted in the belief that it is deserving of most serious consideration.

In spite of all that the American Association of Museums has accomplished as a forum for the discussion of museum problems, it is evident that museums constitute today one of the most incompletely organized and imperfectly developed intellectual, educational, and social forces in the country. The interest of those engaged in the work of museums hitherto has been centered almost exclusively in the problems of their own particular institutions. There has been a notable lack of attention to the broader aspects of the museum movement as a whole. The primary purpose of this paper is to outline a composite picture of American museums as they exist

today. The statistics here presented are obtained chiefly from the Directory of American Museums, and are naturally very incomplete. Their value lies not in detailed accuracy, but in the indications they give of certain broad facts.

After one hundred and forty-three years of museum history in America, there are now nearly six hundred museums distributed in all parts of the United States. About fifty per cent of these are devoted to science, twenty-five per cent to history, ten per cent to art, and fifteen per cent to special or miscellaneous subjects. The natural inference would be that the influence of science museums is predominant; that museums of history are second in importance; and that art museums are a poor third. Such an inference, however, would be most incorrect. It is not the number of museums of any particular kind that determines their importance, but rather the quality and extent of the results which they achieve. The efficiency of museums is difficult to measure, but their annual expenditures give an illuminating insight into their activity.

Approximately thirty-eight per cent of all museums look to schools and colleges for their maintenance. Twenty-seven of these museums reported in 1910 total appropriations of less than fifteen thousand dollars, and only five received one thousand dollars or more.

Thirty-five per cent of all museums look to societies or associations for their maintenance. Ten of these reported in 1910 total appropriations of thirty-eight thousand dollars. Again, however, only five received more than one thousand.

We thus find that seventy-three per cent of all our museums depend for support upon sources which yield an average income of only a few hundred dollars. A large proportion of the science museums belong to schools and colleges; a large proportion of the museums of history belong to societies or associations. With a few conspicuous exceptions, these museums are almost entirely without funds, and in consequence are ill cared for and inactive. Their condition has been discussed more fully in one of the reports of the Commissioner of Education.¹ It is to the large number of museums of this character that we must attribute the widely prevalent conception of a museum as a dusty, musty storehouse of curious, but practically worthless, material. It is the existence of such a large proportion of inefficient museums that requires caution in estimating the relative importance

¹ Rea, P. M., Educational work of American museums. Rep. U. S. Commis. Ed., 1913, vol. I, ch. 13.

of art, history, and science as museum subjects. The deplorable condition of a majority of our museums, and the perfectly natural lack of public interest in such institutions, is the first fact which it behooves us all to recognize.

In contrast to this unpleasant fact, we find a small group of museums, irregularly distributed over the entire country and developed along their present lines chiefly during the last twenty years, whose condition and work form a significant and marked contrast with the museums already described. Thirty-one of these institutions have endowments aggregating nearly twenty million dollars and yielding incomes amounting to nearly one million. Twenty-nine receive municipal appropriations in excess of a million dollars annually. Seventy-six had a combined annual income in 1910 of nearly three million dollars. Sixty-eight of these museums reported a total attendance of over six and a quarter million people.

It is interesting to note that only six colleges have endowed museums, and that the museums at Harvard alone have about two-thirds of all college museum endowments. It is safe to conclude, therefore, not only that college museums receive extremely small appropriations from general college funds, but also, that in only a few exceptional instances do they have endowments. Practically the same condition maintains among museums supported by societies or associations.

The great majority of active museums differ from college and society museums in that they depend upon the public for support, either directly through membership and gifts, or indirectly through municipal appropriations. Their success depends upon their ability to serve the people; hence they become truly popular institutions. They perform the important function of preserving material of artistic, historical, and scientific value, and they prosecute original studies and explorations. But of extreme importance is their use of their collections and their knowledge for the recreation and instruction of the general public. Such museums have become one of our great educational forces, and to this fact must be attributed their success in obtaining financial support.

Art and science are about equally represented in this new type of museum. In 1910, four museums had endowments of over one million dollars each. The first of these was the Field Museum of Natural History in Chicago, whose endowment of somewhat more than five million dollars was about equal to the combined endow-

ment of the next three, but these three were all art museums. Museums of history are not well represented among these more active institutions. Indeed, there is only a small number of historical museums of conspicuous excellence in the country. Yet I am sure you will all agree with me that history lends itself peculiarly well to museum treatment, and I am confident that a great development of historical museums is one of the advances which is sure to come in the near future.

Wherever the active public museum is found, whether in a small town or in a great city, a new appreciation of museums and their possibilities will be found among the people. Millions of school children, thousands of teachers, and hundreds of educators high in authority are enthusiastic in their praise of this new factor in education through visual instruction. We thus find the second great fact that must be borne in mind in any general estimate of museum development, viz., that a new type of museum, looking to the people for support and recognizing its obligation to serve the people, has become during the last twenty years an educational and social factor of great and growing importance.

The museum situation today presents a struggle between the two types of museums outlined above, and between the two corresponding states of mind among the people. The immediate outlook for public service on the part of museums of the first type is not promising. On the part of museums of the second type public service is an accomplished fact. The great need of museums today is the education of a national consciousness of the great and significant change which has taken place in their whole character and policies.

There are many evidences that the time is ripe for a more systematic development of public museums. Without it, their growth must necessarily be slow, while with it, I believe we are ready to enter upon a period of expansion which will permanently establish museums as public servants of the greatest usefulness.

Museums today are suffering conspicuously from lack of organization. There is no medium for the exchange of ideas other than the meetings of this Association. We need a regular museum journal and need it at once. Only the merest beginning has been made in offering training for museum work. Standards of museum practice have not been established. National statistics have only begun to be collected. Nowhere can the authorities of a museum draw from a common fund of experience and expert knowledge. In short,

museum development is not yet an organized national movement; it is a series of isolated endeavors on the part of enthusiastic pioneers.

To coordinate these unrelated forces is not to attempt to promote a new and untried scheme. The enthusiastic pioneers have proved their case. Is there any body more fitted than the American Association of Museums to appreciate this opportunity and to undertake to fill this need? And is there any time more fitting than the tenth anniversary of the founding of this Association to adopt a policy worthy of its name, as the natural outcome of its first decade of investigation?

This is an age of highly specialized organization. Without organization large results are difficult of attainment. It is true that there are inherent in all organizations certain dangers of excess which must carefully be guarded against. We must avoid a central bureau exercising dominant authority. We must avoid a standardization of museums which shall endeavor to cast them all in the same mold. We must retain the individuality and the close adaptation to local conditions which fortunately have resulted from the isolated development of museums in the past; but we must have a freer circulation of ideas, an ample central fund of information, and an organization capable of extending expert assistance in the support of the work of individual museums. We must not stimulate artificially the premature establishment of a host of museums, but we must make easier the founding of museums on sound lines where conditions are favorable.

Such an organization may be a new idea in museum development, but it is not a new idea in other fields. The condition of Young Men's Christian Associations throughout the country twenty years ago was closely comparable with the condition of museums today. The change which has been effected would have been impossible without organization. The transformation of chambers of commerce from ineffective, ultra-conservative, isolated bodies to an aggregation of strong and active units, voicing their opinions through the National Chamber of Commerce, which is rapidly becoming the exponent of the best commercial ideas of the country, is due to organization. The conspicuous efficiency of library service throughout the country is due to organization. The elevation of the standards of scholarship and equipment of our medical colleges, which is one of the most remarkable achievements of the past decade, was possible only through the influence of a national organization. The power of

the Associated Advertising Clubs of the World is the result of the organized development of local units.

Everywhere the effect of organization is a stimulation of local effort, a national currency of ideas, a higher efficiency of method. These results may be described as internal, while another group is external. This concerns the education of public opinion and may be accomplished in part by a definite program of publicity, which in turn stimulates the spontaneous production and expression of ideas throughout the country. In the case of museums, the internal results might be derived through the conventions of the Association, the correspondence of its officers, the publication of its journal, and the personal contact which it would have to maintain with museums and museum workers everywhere. The external results might be obtained by a program of publication in other technical journals, in the monthly and weekly magazines; and, perhaps, even in the newspapers. These would themselves initiate other papers and discussions, all of which would educate public opinion with a rapidity which it is probable that we can hardly appreciate at this time.

SUMMARY

My investigations thus lead me to the following conclusions:

1. From causes inherent in the nature of their support, nearly three-quarters of our existing museums necessarily hold but limited promise of public service.

2. There have arisen, chiefly during the last twenty years, public museums of an entirely new type which, by applying their resources in large part to visual instruction of the people, have become educational and social factors of great and growing importance.

3. The present need of American museums is an organized national movement for the improvement and extension of public museums of this new type, and for the education of public opinion concerning the value of such museums.

4. The American Association of Museums is the body best fitted to organize this movement.

Mr. Benj. Ives Gilman (Museum of Fine Arts, Boston).—"Mr. Rea's admirable report suggests a thought which I have had in mind ever since this organization was started, namely, that in joining it, if I may quote a local poet of New England: "I was hitching my wagon to a star." In other words, I think this Association is im-

mortal, and immortals have important business, we presume. If they don't do it at one time of their immortality, they simply leave it for some future moment. That is precisely the way I feel about Mr. Rea's recommendations.

"Why do I think this Association is a star? Why do I think it is immortal? Simply because museums have come to stay, and things that have come to stay must get together. If this particular organization decided today that it did not care to do anything about this matter, this organization would very likely go out of existence. It wouldn't be worth our while to come to future meetings. But that would be of little consequence. If we who constitute this Association at this particular moment fail in getting together and in doing what occurs to us when we do get together, we simply leave it for the future. If we die as an organization, the museums of five years hence will make another organization.

"Now, the question before us, it seems to me, is only whether we should seriously consider doing the work which Mr. Rea's paper makes plain is here before us to do, or whether we feel that really it is too much to ask of us; and we would rather sit in our places and feel that coming together once a year is about all that we can be expected to do, and that a future year will have to be chosen as the one which shall carry on the real work of the organization."

Mr. Henry R. Howland (Buffalo Society of Natural Sciences).—
"It is very pleasant for us to get together once a year to meet familiar friends and familiar faces, and to profit by what we hear. But as I have listened to Mr. Rea's report I have been greatly impressed that something more is incumbent upon this Association. This nationalizing of a strong feeling of support for museums as a part of the higher and better things in every community seems to me one of our duties. The way we may accomplish this result is what should be pointed out to us. The analysis Mr. Rea has made of the museums of this country is very enlightening, and it is certain that publicity is one of the great things this Association needs in accomplishing that work which should be its object and which lies before us.

"Mr. Rea has said in his report that we need a museum journal at once. I entirely agree with him. I feel that the circulation of such a journal among those interested in museum work would be not only helpful to them, but stimulating to those who support the museums in our various communities. A large proportion of the trustees of public museums are personally very ignorant of museum

affairs. They support their particular museums because it is the right thing to do, but they know very little of the needs of the museums of the country or of the problems that might be solved by the assistance of this Association. I believe that steps should be taken toward the publication of a museum journal.

"More than that, I feel that this Association should realize the amount of labor that the Secretary and his very modest staff have accomplished in the past and are accomplishing today, as evidenced by this report, and should take such steps as are needful to further that work and to make it easier for those upon whose shoulders the burden is laid. I commend the report most highly."

Mr. Herbert E. Sargent (Kent Scientific Museum, Grand Rapids).—"I want to thank the originators of the American Association of Museums for the help it has given so many of us, and I want to speak a word for those who have not been helped because they have not come into the organization and have not felt the pulse which is beating through every one of those here. This plan as outlined is what we need, but more than that it is what they need. It is also what they are willing to take, I believe, if we will give it to them.

"Every one of us needs the experience of others as gained in these meetings to take back to the people of his own community. But what we all find difficult is to convince them of the value of this experience. A periodical which can be put into the hands of the people who may want to know what is done here will not only help us, but will help those who are not with us today. It means work, of course, a lot of it; it means not only the work of Mr. Rea and his staff; it means the work of every one of us. I do not believe many of us are doing all we can. I know I am not. There are in my state several organizations that are not with us. We need this publication and I believe that this tenth anniversary could not be better spent if we did nothing else than put this movement on its feet."

Mr. Roy W. Miner (American Museum of Natural History, New York City).—"I find myself in what is, perhaps, the position of many of you here. I have not been able to attend the Association meetings for two years. I have not been able, therefore, to get the inspiration and help of the Association as an organization.

"In working up material for a paper at this meeting, trying to see what had been done along a certain line, not only in this country but in other countries, I found that almost nothing had been published in America, at least in recent years. I had to go to such pub-

lications as the British *Museums Journal* and the German *Museums-kunde* for material regarding certain things in this particular topic. My experience indicates the need of a museum journal which will come to me every month, and from which I may know what is going on throughout this country."

Mr. Harold L. Madison (Park Museum, Providence).—"There is another phase of this matter in which, as the representative of a small museum, I need a strong organization behind my work, and that is in impressing upon the people of my community the importance of the museum as a big organization. I find myself in touch with such bodies as Mr. Rea has mentioned in his paper, the Young Men's Christian Association and the Chamber of Commerce, which have back of them an organization doing things that result in their being recognized as great national movements and that make it comparatively easy for them to secure funds.

"During the last eight years our appropriation from the city, and ours is strictly a municipal museum, has almost trebled, and yet at the present time we find ourselves facing a condition in which, if we are to develop the various lines of work which have begun, we must have more money, probably more money than the city is willing to appropriate for some years to come. With a national organization behind the museum, I can say to the city: 'This is a great big thing that has come to stay; it is recognized as one of the most deserving movements throughout the country.' It would then be not nearly so difficult to secure funds.

"I am dreaming of an endowment some day for my museum, even though it is a municipal institution. To whom may I turn for help in raising an endowment? I cannot make the same impression on the people of my own city that a competent man from away can make. It would be of the greatest assistance if I could get a representative of this Association to come and tell them what museums stand for throughout the country. We need organization, not only for publication, but for help in raising funds, if you please, an organization upon which we may call for information along many lines." (*Applause.*)

Dr. W. J. Holland (Carnegie Museum, Pittsburgh).—"I have been very much interested in this report, and in the remarks which have been made. Mr. Rea reminds us of the fact that this is the tenth anniversary of our first convocation. We have lived ten years and I

don't think it has been at a poor dying rate. To quote one of Dr. Waters' hymns:

We have lived; we have paid our bills;
We have accomplished some things that are creditable.

"We are recognized today as the only association of its kind in the western hemisphere, and that is something. The cause that we represent is a growing cause; it commends itself to all the world. As my friend on the right expressed it, 'museums have come to stay.' They are not going to depart like a cloud of locusts when the frosts come in the fall.

"The only question, then, is to make this organization, which has come to stay, as potent, as useful, as conducive to the public good as can be done. It is suggested that we publish a newspaper. We will, yes, provided we can get the right editors, men who know what they are talking about, who have ideas, and who are in a position to instruct.

"Printing a newspaper is an art, like keeping a hotel, and journals connected with associations of this sort are likely to have a hard time if not supported by generous guarantees of money. I believe it would be a good thing to have in connection with this Association and to a certain extent under our supervision and control, a journal like the *Museums Journal* of Great Britain. I would like to say that I am willing personally and officially to do all that lies in my power to promote the noble efforts which have been suggested, but I want to utter in passing a slight word of caution. Be sure you are right, that you have conceived the thing along lines that are likely to succeed, then go ahead. I would not like to see this Association commit itself to a movement the outcome of which is not clearly foreseen. It is easy to embark in enterprises that we may repent."

Secretary Rea.—"I am very grateful to Dr. Holland for bringing out the points he has made, especially the last. There is nothing for which I am more anxious than that this Association shall not act thoughtlessly in this matter, and I would be most loath to see it undertake a program which it cannot carry through. I feel that this subject, as the President has indicated, should be the keynote of this convention, that action should be cautious but strong, and that we should keep this matter in mind and look at it from one side and another, from day to day, until we adjourn but that adjournment should not come until we know where we stand.

"I would like to comment on one statement that Dr. Holland has made: It was a pleasant thought which he presented that we have lived ten years and paid our bills. We have paid our bills in the sense that there are no outstanding bills, but it is fundamentally and ethically true that we have not paid our bills. In the second year of the Association we decided to publish our proceedings. Did we pay the bill? No. Who paid the bill? Dr. Holland."

Dr. Holland.—"This is offensive to me. The gentleman is indulging in personalities, and I hope that you will not allow it."

The Chair.—"Dr. Holland is out of order."

Secretary Rea.—"Two years later we had undertaken to perform our first great stock-taking operation, to determine something which was unknown—the number and kind and quality of museums which existed in this country. Did we pay the bills? No. A gentleman from Pittsburgh and a gentleman from Chicago paid most of the bills. We got our directory ready and it was printed, and there is no outstanding bill, but who paid it? The Buffalo Society of Natural Sciences. Therefore, ladies and gentlemen, this Association has made good only by the courtesy and the charity of its friends."

"However, Dr. Holland has put his remarks in a most happy way. He has brought to the front cautions which should be followed very carefully, and he has at the same time expressed his high faith in the future of this organization and his desire to promote sound permanent results. I desire nothing more than to have all phases of this matter discussed."

After some further discussion a set of resolutions was introduced and by vote of the Association ordered to be mimeographed for more careful consideration. These resolutions were unanimously adopted at the closing session of the convention in the following form:

Resolved, That the American Association of Museums, in annual convention assembled, records its profound conviction that the results already attained by the leading public museums of the United States warrant and require organized effort for still more useful service, and to this end pledges itself to united and sustained support of a national movement for the increase of the number and efficiency of museums as public servants, and for the education of public opinion to a fuller appreciation of the practical value of museums, and that it proposes to promote these purposes—

First. By the publication of a museum journal which shall be a forum for discussion of the principles and problems of museum organization and management, and for the diffusion of information respecting museums.

Second. By the preparation of articles for the education of public opinion in relation to museums, to be published in such manner as may appear most suitable.

Third. By systematic collection and diffusion of statistical and technical information for the benefit of a national museum development.

Fourth. By maintaining intimate and personal acquaintance, through its officers, with museums and museum workers.

Fifth. By extending its cooperation in such ways as may prove most helpful to communities desirous of establishing museums, and to existing museums in the solution of problems in which the aid of the Association is desired, and further be it

Resolved, That the Council of the Association be and it hereby is authorized to take such action as may in its judgment best be calculated to carry into effect the purposes of these resolutions, and that the Council be and it hereby is duly authorized to solicit funds on behalf of and in the name of the Association for the prosecution of these plans.

At the time these resolutions were passed there was a somewhat extended discussion of possible difficulties and dangers involved in the publication of a museum journal. This discussion resulted in no definite action and was intended chiefly for the information of the Council. In this connection, Mr. Herbert E. Sargent of the Kent Scientific Museum, Grand Rapids, appealed to the members to communicate more freely to the Council their ideas and suggestions for the welfare of the Association.

A communication was submitted from the College Art Association relative to college training for museum workers. The Association voted to refer this communication to the Council with power to act. The Council, feeling that the matter required more prolonged consideration than could be given to it during the convention, subsequently appointed a sub-committee consisting of Mr. Louis Earle Rowe, Mr. Benj. Ives Gilman, and Miss Edith R. Abbot, this committee to make recommendations to the Council.

The Secretary requested the attention of the Association to the fact that the use of the questionnaire method of obtaining museum information is greatly increasing. He emphasized the importance of this method of obtaining information, the danger of its being overworked, and the desirability of having the information obtained by this means accessible through the Association to all museums. He then suggested the desirability of taking action tending to discourage the indiscriminate use of questionnaires, and at the same time of providing better facilities for filing, compiling, and distributing museum information on behalf of the Association. These suggestions were not received with favor by the Association and the matter was laid on the table.

The Council submitted the following communication, which was received by the Association as information:

To the Members of the American Association of Museums:

Every one of the grand divisions of the earth except America is at present somewhere a scene of war. President Wilson has declared it folly for Americans to act as if there were no danger that a spark from this world-wide conflagration might catch in this country.

Since museum collections are among those items of our national wealth which most easily might become the spoil of an invader, the Council of the Association earnestly urges its members to inform themselves fully and without delay in regard to the various movements now on foot in this country under distinguished auspices looking to the safety of our people and our institutions.

In memory of our forefathers, and in forethought for our descendants,

Council of the American Association of Museums.

The Secretary submitted to the Association a communication from Mr. E. E. Lowe of the Museums Association of Great Britain relative to an effort being made to arrange with an English manufacturer to furnish glass exhibition jars suitable for museum use. The general sentiment of the Association seemed to be that inquiry should first be made as to the possibilities of securing glassware of this character from American manufacturers, failing which the members would be interested to cooperate with the British Association.

The Association then adjourned for luncheon. The afternoon was devoted to an inspection of the new National Museum, the old building of the National Museum, and the Smithsonian Institution.

SESSION OF MONDAY, MAY 15

Evening

The evening was devoted to a supper, followed by the presidential address and a round table discussion in celebration of the decennial anniversary of the founding of the Association. At the request of President Farrington, Dr. W. J. Holland of the Carnegie Museum, Pittsburgh, acted as chairman for the evening.

At the conclusion of the supper, President Oliver C. Farrington, curator of geology in the Field Museum of Natural History, Chicago, delivered his presidential address as follows:

SOME RELATIONS OF SCIENCE AND ART IN MUSEUMS

It was said, I believe, at our last meeting, that there has never been a meeting of this Association at which the relations of science and art in museums have not been discussed. If my personal wishes are consulted, the subject will continue to be discussed at meetings of the Association, since I regard it as one of fundamental importance and one which admits of greater elaboration than it has yet received. While I do not expect to be able to contribute anything of radical importance to the discussion, I may improve this opportunity to glance at some of the outlines of the subject.

Art, according to a definition which may be representative, is practice as guided by correct principles in the use of means for the attainment of a desired end. The arts may be subdivided into the esthetic or fine arts, or arts of beauty; and the useful, industrial or mechanical arts, or arts of utility. Of these two forms of art it is the fine arts which are represented most largely in the museums of this Association. While there are museums devoted chiefly to the useful or industrial arts, as yet this phase of art has received limited attention from the museum standpoint. Confining, then, our consideration of art chiefly to the fine arts, we may note that they may be subdivided into (1) the free, whose object is to create form for its own sake, embracing painting, sculpture, music, and poetry; and (2) the dependent, whose object is to create form that shall minister to some utility. Here again we may note that the museums of art so far established deal chiefly with the free or unapplied arts.

A term formerly contrasted with art was nature, distinguishing what was from what was done. It survives in the term natural

history museums, which is the designation of many of the museums represented in this Association. But as the term "nature" gradually came to mean ordered knowledge of natural phenomena, it became natural science, and this was abbreviated to science. The term chiefly contrasted with art is now, therefore, science. Science is knowledge gained and verified by exact observation and correct thinking, especially as methodically formulated and arranged in a rational system. Like art, science may be divided into (1) pure science, which is knowledge acquired for its own sake, and (2) applied science, which is knowledge acquired for its utility. Just as museums of art are thus far chiefly devoted to pure rather than to applied art, so museums of science have thus far been chiefly devoted to pure rather than to applied science. There is little of economic importance about a dinosaur or an ornithorhynchus, yet it is to materials of this sort that natural history museums chiefly devote themselves. That the preponderance of this more or less abstract relation of museums to human activities may not always exist is quite probable, but it is interesting to note that thus far it has existed.

A contrast between art and science which expresses in a phrase the characteristics represented in the definitions just given is to say that art consists in doing, science in knowing. In so far as it is necessary to know in order to do, therefore, science may be said to be subservient to art; in so far as it is necessary to do in order to know, art may be said to be subservient to science. A scientific museum should then, we would say, represent what is known, an art museum what is done. But while the terms are independent they are not exclusive. Because science deals fundamentally with knowledge and art with action, it cannot correctly be inferred that an artist need not know anything or a scientist need not do anything. Again, a contrast of art and science has been expressed by saying that science speaks in the indicative mood, art in the imperative. Science treats of what is, was, or shall be; art of what should be. Science seeks a knowledge of nature. Art says in effect that it seeks something better than nature. Science depicts life; art, sometimes at least, exaggerates life.

Perhaps the distinction between science and art by which their characteristics are most commonly and at the same time fundamentally expressed, is that which regards them as emphasizing, the one truth, the other beauty. The search of science is chiefly for truth, that of art for beauty. Science produces the law of gravitation;

art the Sistine Madonna. Science gives us the Origin of Species; art the Venus de Milo. Both of these ideals are great and worthy. There would seem to be no reason for a conflict between them, yet they do conflict somewhat, in effect, for the scientist sometimes feels somewhat averse to art because he feels that art is not always true, and the artist is sometimes unable to appreciate science because he says it is not always beautiful. Yet a deeper study of either of these concepts would show that they are not in reality opposed. The colors used by the artist may appear to the unartistic eye unnatural, yet the artist asserts that they are the true colors. To the artist a lump of black mud looks ugly, but the scientist knows that it contains the elements of the blue of the sapphire, the gleam of the diamond and the whiteness of the snow. The scientist sees beauty in a dinosaur, the artist truth in a gargoyle.

The establishment of collections of art, and therefore in a sense that of museums of art, undoubtedly antedates that of collections of museums of science. In Greece and Rome, as I have remarked in a previous address, little attention seems to have been paid to the preservation of objects of nature, but the number and extent of the works of art of Greece were such that it was in a sense one great art gallery, while many Roman emperors are said to have possessed important collections of statues and other works of art. These facts accord with the principle brought out by Herbert Spencer that in human development interest in ornament usually precedes interest in utility. In Italy interest in art and the preservation of its works survived after the fall of the Roman empire, the church being a great patron and conservator of art. Also the interest in classical history aroused during the period of the Renaissance led to the excavation and preservation of many art treasures of Rome and Greece which, again, led to the establishment of some of the European art museums, especially those of Italy. The Louvre, the world's greatest art museum, was founded in the sixteenth century, but did not become of great importance until the time of the French Revolution when the people demanded an opportunity to view the art treasures which had hitherto been visible to royalty alone. The British National Art Gallery was founded in 1824, the German in 1866. In this country the establishment of art museums has been on the whole contemporaneous with that of science museums, although less extensive. The first institution of art in this country which later developed into a museum of art was probably the Phila-

delphia Academy of Fine Arts established in 1805. An art collection was established at Bowdoin College in 1811 by a gift from Hon. James Bowdoin and the acquisition of the Boyd Collection. In the subsequent period in this country until after the close of the civil war little was done in the way of establishing art museums. The Fine Arts Academy and Museum of Buffalo was founded in 1862 at about the same time as the Society of Natural Sciences of that city, under whose auspices a natural history museum is conducted. The Metropolitan Museum of Art of New York City was established simultaneously with the American Museum of Natural History in 1869. The Boston Museum of Fine Arts was founded in 1870, forty years later than the Boston Society of Natural History with its museum. The St. Louis Museum of Fine Arts was organized in 1879, and no public science museum has as yet been established in that city. The Art Institute of Chicago was established in 1879, the date being twenty years later than that of the founding of the Chicago Academy of Sciences and fifteen years earlier than that of the Field Museum of Natural History. The Cincinnati Art Museum was founded in 1881, eleven years later than the Society of Natural History of the same city. The Brooklyn and Pittsburgh museums, in which science and art museums are housed in the same building, were established in 1889 and 1896 respectively. The Act of Congress of 1846 from which the United States National Museum originated, mentioned first among those objects which were to be delivered to the custody of the institution, objects of art; but it is only recently, if I understand the situation correctly, that the carrying out of this provision as a part of the work of the National Museum has been undertaken.

In some cases, as in Brooklyn and Pittsburgh, as noted, the art and science museums are housed in the same building, and in some other cities art and anthropological collections, or art and historical collections are so associated, while in some fewer instances art collections form an adjunct to libraries.

Heterogeneity of aim has fortunately, however, for the most part been avoided and I know of no museum in this country to which could be applied a description given of a foreign museum of which it was said that it "accepted with equal gratitude oil paintings and South Sea war clubs, ship models and live snakes, collections of birds' eggs and illustrations of the manufacture of Tam O'Shanter bonnets;" or of another in which "a Roman altar dug up in a neighboring farm

supports a helmet of one of Cromwell's soldiers; above hangs a glass case full of butterflies, surmounted by poisoned arrows and javelins from the hill tribes of India; a large cork model of a Chinese temple blocks up one corner of the room while other parts are obstructed by a brass gun of unknown history, a model of an old three-decker, and possibly the embalmed remains of some one who declined to be laid under the turf." While in some communities museums which exhibit many classes of objects may be the most practicable and desirable form of museums, I believe that specialized museums wherever possible give the most satisfactory results.

But even where museums are specialized it is sometimes difficult to distinguish whether the chief interest of some museum material is artistic or scientific. A piece of agate, for example, has a mineralogical interest and would normally be placed in a mineral collection. But carve it and it becomes a work of art, and is placed in an art collection. But even in the carved form it has a scientific interest, since the carving illustrates the hardness, toughness and structure of the mineral. A painting may be considered a work of art, or it may be regarded as an illustration of the properties of pigments. In the field in which anthropology merges into art, and vice versa, there is opportunity for continual questioning as to significance. The problem seems to be solved rather curiously in some instances, for Peruvian mummies seem to be generally regarded as objects of science, while Egyptian mummies are considered objects of art, if one is to judge by a frequent grouping in museums. As a general principle for classification, that suggested by Lord Balcarras seems to be an excellent one. He urges that objects should be classified according to the quality for which they are most remarkable. "Thus, he says, "a musket or bass viol of the sixteenth century, inlaid with ivory and highly decorated, should probably be included in an art collection, while a common flute or weapon noteworthy for nothing but its interest as an instrument of music or destruction should suitably be classified as ethnographic."

From the list that I have given it seems evident that the municipally supported art museums are, as in the case of the science museums, the most vigorous and effective museums. The number of art museums established in connection with educational institutions is much smaller than that of science museums similarly established. It may be assumed, then, probably with correctness, that it is the appeal of the art museums, as that of the science mu-

seums to the general public which has met with the most substantial response. To a large extent probably the same public visits both the art and the science museums. It is, therefore, equally educated or uneducated in both subjects. May it be, therefore, that a pressure has more or less unconsciously been brought to bear by the public, leading to a demand for art in the science museums and for science in the art museums? For example, for most scientific purposes an animal skin is as useful as any mounted form of the animal. The skin shows size, coloring, condition of pelage and similar features needed for the knowledge of that portion of the animal. If science alone were presented by the science museums, the exhibition of rows of specimens would fulfill their entire function. But the visitor wants life, vividness, and action, or the semblance of it. Accordingly, partly from this cause perhaps and doubtless from other causes, there came about the introduction of art into the exhibition of scientific specimens, very meagerly at first, in such ways as the mounting of birds on branches, but later giving us the wonderfully life-like and elaborate groups which rival other sculptural works in their virility and beauty, and which have made of taxidermy a new and true art which seems destined to still greater importance. Partly from the same desire for vividness, perhaps, and partly from the need of representing the environment of an object in order to understand its place in nature, painted backgrounds also are now effectively and widely employed to aid in the presentation of objects of nature. That the function of such backgrounds should always be held a subordinate one in science museums I have urged in a previous address, but that if subordinate their function is a desirable one, no one, I think, will deny. Of much the same nature is the use, as backgrounds, of screens whose color and pattern conform to and elaborate the representation of the contents of cases. Notably successful work along this line is to be seen in the anthropological section of the Dresden Museum. Further, fresco paintings are employed in many scientific museums in order more effectively to represent the relations of the objects in a hall to their natural surroundings. Excellent examples of such work are to be seen in the Vienna Natural History Museum and in the anthropological section of the Museum of the Brooklyn Institute.

Besides these more striking and evident ways in which art may be pressed into service in the work of science museums, there are many minor ways in which an artistic sense and methods of art should be employed in them. From a theoretical point of view any elabora-

tion of installation is a matter of art, since theoretically at least science does not require any more installation than that of laying specimens in rows. Effectiveness of display must be solved largely by methods of art. For this work the curator of scientific collections needs to be informed in canons of art. He needs to know, for example, the relative values of straight and curved lines, the relations between different curves, the superior appeal of odd numbers, the principles of composition and design, the proper association of colors, and so on.

A collection, say, of butterflies arranged wholly from the standpoint of scientific classification might show associations of color and pattern which would be painful to an artist. The artist would equally shock the scientist if he arranged the collection wholly with a view to harmonies of color and pattern. But if in the scientific museum in displaying a collection in scientific order an effort be made to avoid disharmonies of color as far as possible, or if in the art museum while bringing out the best effects of color and design it is also endeavored to adopt an arrangement which shall also reveal scientific relations, will not the best results of all be obtained?

In a scientific museum it may be remembered also how largely the appeal of an exhibit to the public is based on color. It is the "pretty" birds and minerals and shells that first attract attention. This may be a psychological phenomenon rather than an artistic one, but whatever its origin, instead of ignoring it I believe it should be recognized and employed (always in subordinate fashion) to increase effectiveness of display.

To what extent science may be introduced into the management of art museums it would be presumptuous of me to assert, but suggestions are not unknown that a touch of the wonderful organizing power of science might make art museums more effective. Goode quotes a German critic of some European art museums as remarking that in some of them "A Venus is placed side by side with a Madonna, a satyr next to a saint, Luther in close proximity to a Pope, a painting of a lady's chamber next to that of a church. Pieces executed for churches, palaces, city halls, for a particular edifice, to teach some moral or historic truth, designed for some especial light, for some well-studied surrounding, all are hung pell-mell upon the walls of some non-committal gallery."

Surely the failure to classify should not be carried so far that objects of the same kind are scattered all over a building as has been reported of some art museums. Again, will not the importance of pro-

viding a proper environment for art specimens come to be appreciated in time by art museums, as it long has been by science museums? Are rows of specimens any more desirable in art museums than in science museums? Further, against the danger that for the effect of mystery with which great artists have through much painstaking been able to endow their works their successors substitute mere carelessness, what better safeguard is there than a touch of the scientific habit of thought? The custom of Claude to invariably make the boughs of trees part two at a time would be highly unsatisfactory to one of a scientific type of mind, and it seems likely that it should not be considered good art. Some artists are said to have a fixed scorn of measurement and of any distinctions of species, but do not such specific characters indicate the true nature of the object? May not the wonderful naturalness with which, for example, Leonardo da Vinci was able to endow his works of art have been due in part to the fact that he was a great student of nature as well as a great artist? In fact may not the mental attitude of Leonardo, as stated by Colvin, be worthy of imitation by all workers in art? "He found the way," says Colvin, "to unite precision with freedom and fire—the subtlest accuracy of expressive definition with vital movement and rhythm of line. Neither did he stop at mere appearances of any kind, but having stamped the image of things upon his brain he went indefatigably on to prove their hidden laws and causes. He soon satisfied himself that the artist who was content to reproduce the external aspects of things without searching into the hidden workings of nature behind them was one but half equipped for his calling. Every fresh artistic problem became to him a far-reaching scientific problem as well. The laws of light and shade, of perspective, including optics and the physiology of the eye, the laws of human and animal anatomy and muscular movement, the laws of the growth and structure of plants and of the powers and properties of water, all these and much more furnished food almost from the beginning to his insatiable spirit of inquiry."

In conclusion, what I have desired to say may probably be summed up in the words that in museum work Science may rightly say to Art—"I have need of thee," and Art to Science, "I have need of thee." Granting the need of such exchange of methods and of ideas, what better opportunity is there for meeting it than is provided in the gatherings and publications of this Association with its membership made up of those who are expert in art, science, history,

and other lines? The opportunity which is thus afforded is a rare one, one which can be granted by few if any other organizations, and instead of doubting its advisability, as has sometimes been done, we should, on the contrary, welcome it and gather its rich fruits for the advancement of museums. I have said nothing of the many respects in which all museums have common experiences, such as methods of administration and organization, methods of instruction, publicity, etc., but have simply sought to show that in these somewhat narrow fields in which there might seem to be little of mutual interest, there are benefits to be obtained from the relations of this Association which we cannot afford to overlook or neglect.

Following President Farrington's address, Dr. Holland reviewed the early history of the Association and called upon various members for remarks. After these speeches the Association adjourned.

SESSION OF TUESDAY, MAY 16

Morning

The morning session was called to order at 9.30 a.m., Mr. Henry R. Howland of the Buffalo Society of Natural Sciences presiding at the request of President Farrington.

The following paper was presented by Miss Eva W. Magoon, assistant to the curator, Park Museum, Providence:

A MUSEUM GAME

In these days of wide-spread "child welfare" propaganda, every one will agree that it is of tremendous and fundamental importance that the museum reach and interest the children. There are two ways in which the museum may go about accomplishing this end—like the proverbial mountain: (1) By going to the children. (2) By the children's coming to the museum. The former is in many respects the less difficult phase of the problem, provided an adequate system of cooperation can be built up with the public school department.

At the Park Museum we have been trying to build up such a workable system of cooperation between the museum and the schools of the city and state. Eight years ago, in the fall of 1908, the attempt

began. The curator of the museum made an occasional visit to the schools for a lecture, and various teachers and their classes made irregular visits to the museum by special appointment. This unsystematic work went on for several years, but with increasing demand for something more definitely regular, until two years ago, when a system of cooperation was established which was sanctioned by the school authorities and by the museum board.

By this system, a member of the museum staff visits every grammar school in the city three times a year for a course of lectures; and all the pupils of the 6A grade are required to visit the museum for definite instruction. All incidental expense, such as carfare and expense of collecting material for use in the schools, is met by the school department.

The complications of a lecture at the school are comparatively few, since the lecturer's actual responsibilities begin only when he goes on to the platform and end the minute he leaves it. Possible disciplinary matters are taken in charge by the teachers, and the general restraint of the school atmosphere is always expected. Though responsibility ends with the close of the lecture, influence does not stop there; and it has been proved again and again that the influence of these lectures is far-reaching. While sitting in my office one day this spring, I saw a group of boys approach a small exhibit of "birth stones." As they paused within ear-shot, I heard one of them exclaim: "Say, look here! Here's some of the stones Mr. Madison talked to us about at school last week."

The features of the other problem, the visit of a class to the museum, are much more complicated. The restraint of the school discipline sometimes disappears, in spite of the fact that the teacher attends the class. The holiday spirit is rife. The experience of a visit to what is possibly an unfamiliar place has its results, and the child may feel that he has been let loose in a storehouse of wonderful new sights which he must see all at once, and which he *must* see, even if, in his enthusiasm, he pushes aside a classmate. On the other hand, he may be so over-awed by the mixture of general new impressions that he does not know which way to turn or how to look for anything.

Decent service may be provided for the class if the group is small enough to give every one a chance to see the exhibit. But even the best decent work has its limitations, and numerous are the difficulties encountered when the class is large. For example:

1. Not all the children can see the exhibit at one time.

2. Because they cannot see, the children pay attention for only a short time to what the docent is saying.

3. Because they are neither seeing nor hearing what is going on, they become restless.

4. Being restless, they move about on the edge of the group, look at other exhibits nearby, and finally may abandon themselves to real mischief.

Any or all of these things disturb the group and a large measure of the success of the docent's work is lost.

After experimenting for some months, it was found that the simple plan which we finally chose to call "museum game" was adaptable to local conditions, and its use during the past year has met with even greater success than was anticipated. The plan is this:

Some member of the museum staff gives a half-hour talk on a stipulated, seasonal subject, and then the game begins. The children are given the freedom of the building. This phraseology may give you visions of uproar, disorder, and loud talking. But may I assure you that the actuality is not so described. And, if there are other visitors in the building, they often approach the official in charge to ask how it is possible to keep such a large number of boys and girls (sometimes as many as one hundred) interestedly busy and quiet at the same time. Perhaps therein lies the secret—they are busy.

To guide their freedom, the children are given cards containing in each case a sentence about something in the exhibits. Each sentence is a puzzle sentence, since in each there is some word omitted, the blank to be filled in by the child receiving the card. These sentences have been carefully chosen to contain some fact of interest and instruction that a boy or girl ought to know, and are worded in such a way that the idea is neither too obvious nor too complicated to be grasped. The following are typical sentences:

The.....bird builds a black, hanging nest of fibers.

Indian money is called.....

Mercury comes from a.....colored mineral.

In this way each child becomes an individual investigator of a particular topic. His surplus energy is wisely directed, and instead of rushing boisterously around the building, glancing hastily at everything and remembering nothing, he goes steadily about seeking one thing at a time. When one question is reported correctly to the

official in charge, other cards are furnished until the end of an allotted time, usually fifteen minutes, when the children are again summoned to the lecture hall. Each child then becomes a reporter of the facts he has gleaned, and incidentally picks up other facts by hearing his comrades report on their results.

This museum game has been found to have several excellent results both from the child's and from the museum's point of view. The spirit of rivalry and enjoyment in the game for its own sake makes a peculiar appeal to the child and arouses great enthusiasm. The museum becomes to him a storehouse of knowledge rather than a place for mere amusement. And besides having his interest in natural science stimulated, the child has received a lesson in independent research, concentration, observation, and memory. Instead of a confused jumble of ideas, each child has received one or more definite impressions of the museum exhibits. That the effect is lasting is shown by the fact that small groups of boys and girls return to the museum asking for permission to "play the game" by themselves.

The working out of the museum game plan has satisfactorily solved the difficult problem of disciplining the ordinarily boisterous crowd of children, because the mind of each child is occupied along a particular line, and excellent order is actually maintained by the boys and girls themselves.

There is nothing elaborate in this game to exploit, to be sure. A small museum can scarcely attempt many large-scale things. It is merely a timely suggestion for the solution of one of our mutual problems, offered for what it may be worth to those to whom the idea may be new, with the hope that in our turn, we shall receive suggestions from others who have been working out the same problem by other or similar means.

Chairman Howland.—"Miss Magoon's delightful game for children makes me think of an experiment we are now trying in Buffalo. It occurred to us some time ago that there was no more useful way of making the people acquainted with what the Buffalo Society of Natural Sciences has to furnish them in its museum than through interesting the Boy Scouts. So we have prepared a series of about seventy questions, which are printed upon sheets folded at the top and headed by the statement that the answers to these questions can be found from the labels in the museum cases. These are all numbered and

given out systematically by the Boy Scout leaders. After each question is a space sufficient for writing the answer, and at the end is a certificate to be signed by the boy, stating that he has obtained the answers to the questions by studying the labels in the museum without the help of any other person or of books. The boy who accomplishes successfully what the questions require receives a medal prepared jointly by the leaders of the Boy Scout movement and by the Buffalo Society of Natural Sciences. This becomes a badge of merit for the Boy Scouts. In hunting for the answers to the questions the boys have to study many other things, thus becoming familiar with the museum as a whole. When they go home they tell their parents about their visit and this helps to encourage the interest of the people in the work of the Society."

Mr. Henry L. Ward (Public Museum of the City of Milwaukee).—"I feel that Miss Magoon has the correct idea of interesting children. Anything that makes the children take an active part in the work helps to excite and maintain interest. In Milwaukee we have not issued cards, but our formal lecture to about two hundred school children every morning is preceded by a certain amount of questioning of the children by the lecturers and it is quite pleasing to see the rivalry as to who can get their answers in first. Our regular lectures are illustrated not only by lantern slides but by moving pictures, the latter being used in very short lengths. We seldom let the movies run more than thirty to forty-five seconds at a time. After the lectures, the children are taken into the museum proper for what I have been pleased to term laboratory practice. They are divided into two groups and are handled by four people, our two lecturers and two attendants who have been specially trained for the purpose. Our method of instruction here is to ask the children to find animals that illustrate certain principles developed in the lecture. One of our lecturers calls this teaching the children how to read the animals, and he has so trained these children that, after the manner of Sherlock Holmes, they are able to tell a great deal about a new animal from its appearance.

"We have very little difficulty in the matter of discipline. Of course the children make a certain amount of noise, but real disorder is conspicuous by its absence because the children are so deeply interested. I think this is due to the idea that Miss Magoon has emphasized of giving the children the active end of the work."

The Chair.—"Next on our program is a symposium reporting

further progress in the use of museums for instruction in the history of civilization, arranged by Miss Anna D. Slocum in cooperation with the Woman's Education Association of Boston."

Miss Anna D. Slocum then presented the following paper:

A STUDY OF NATIONS THROUGH THE MUSEUM

INTRODUCTION

The papers to be presented this morning show us how the museum may aid the school in battling with some of the educational problems that a new era is bringing to us.

Museums of science and of art can combine to give a vivid presentation of man's existence on the earth from primitive days down to our own time by showing the implements, weapons, and objects of art that men and nations have created to fill their practical and esthetic needs. The museum thus opens a comparatively new approach to history, adding to the written word the vital appeal of actual objects and of art. While the text-book deadens the past, the museum should make it live again in the mind of the student as he follows man's advance through the ages, and observes and compares the contributions that the different nations have made to the civilization of the world.

The study of nations through the museum opens new and timely opportunities for the broader education that our present day requires. Education in its wider meaning has been aptly described by Huxley as learning the rules of the mighty game of life, these rules being the laws of nature, a running counter to which precipitates defeat and death, while a knowledge of how to utilize these newly discovered forces brings progress and richer life. "In other words, education is the instruction of the intellect in the laws of Nature, under which name I include not merely things and their forces, but men and their ways."

The present tendency to study individuals and groups through their activities and from the wider range of long stretches of time, is seen in the recent book, by the president of the American Museum of Natural History, "Men of the Old Stone Age: Their Environment, Life and Art," which not only emphasizes the great antiquity of man and the slowness of his progress, but also shows how ancient are his powers of observation, invention, and discovery. The book

thus throws a new light on the hidden laws that are working through "men and their ways."

The museum of science carries the study of man down through the long ages of primitive life onward to the museum of art which holds the monuments that embody the spirit and ideals of the great epochs of the world, for it is the museum of art that reveals through its collections the progressive contributions that the nations have made to the world's civilization.

The papers which follow, it is hoped, will reflect in miniature a larger movement of the time—the search through a study of "men and their ways" for the more subtle laws of nature that play through man's activities, laws that gravely challenge, with life and death issues the ceaseless effort of individual and nation to discover them, rules of the mighty game that, once revealed and followed, will in time develop the logical attitude of mind that will seek to utilize the power of these laws to turn drift into mastery, and to make for constructive and creative cooperation among the nations.

Miss Delia I. Griffin, director of the Children's Museum, Boston, presented the following paper:

HISTORY STUDY AND MUSEUM EXHIBITS

At the Milwaukee meeting, the writer described an experiment undertaken during the winter of 1914 by one museum—a simple study of the history of civilization as it developed along the lines of man's great material needs.

"Food" was the subject of that season's study, "Clothing" was taken the second year, and "Shelter," leading to a consideration of architecture, was studied the past winter. Before going into the subject-matter, the personnel of this Industries Club warrants a few words. The members are upper grammar and high school students, both boys and girls. The original membership was fifteen, ten have been in the club all three seasons, while this year the number has increased to eighteen. Perhaps the formal organization has been a factor in holding the young people together, for officers are chosen, committees appointed, and meetings conducted according to the best parliamentary usage. It is emphatically a society *of* the boys and girls not *for* them, and the members feel responsible for all the activities and plans other than the lectures—while their questions furnish the basis for many of these!

During the first year, considerable hand work was done by the young people, especially in the line of designing and modeling clay dishes. The second year's study was favorable for collecting, and exhibits of raw materials and finished products of cotton, silk, linen, and wool were made. These have been incorporated into the industries department of the museum and there serve to increase the value of our collections and also to stimulate other classes to similar lines of work.

A special study of silk was made a year ago this summer by three members of the club. Some fifty half-grown silkworms were presented to the museum by an investigator in the Bureau of Ethnology, and the boys undertook their care. A white mulberry tree was found within a hundred feet of the building and the voracious worms were fed twice daily for a month or more. The boys studied books on silk-culture, and, lacking bamboo, made baskets of willow twigs for the silkworms when they were ready to spin. One basket closely filled with cocoons, was baked according to instructions and placed with the museum exhibits. Other cocoons were put away in the club room, watched, and, when the moths emerged, some were preserved for the collection, others reserved for the breeding of next season's caterpillars, and finally some cocoons were dipped in boiling water, and the fine threads unreeled and wound upon spools. This work requires the utmost care and patience for the silk thread is so fine that the slightest pull will break it, but the boys have a half dozen spools of hand-wound silk of which any Chinese merchant might be proud. Incidentally, their neckties now have a meaning other than that of convention or beauty.

During the past winter, the club has collected pictures illustrating their somewhat simple course in architecture, some members have made studies and reports of various famous buildings, and others have brought to the meetings excellent sketches. A large scrapbook holds these evidences of the winter's work, but the most valuable result is the intimacy gained with the prominent buildings of Boston, their history and the significance of their architecture. Trips have been made to various parts of the city, the young people viewing with critical eye churches, State House and college buildings. The value of their study lies not so much in their ability to recognize a Corinthian column or a Gothic church, but in their power to really *see* the building at which they look, and to form some judgment of

the meaning of its structure and gain standards of beauty as expressed in wood and stone.

Further, the three years of this Industries Club have brought its members into definite touch with the Art Museum and have taught them to visit that vast treasure house and select from it, one section at a time for either instruction or pleasure. As a result the boys and girls are now on terms of familiarity with some rooms, and their satisfaction in this acquaintanceship is enhanced by the fact that many sections are still unknown territory awaiting exploration. A general knowledge of the industrial life of the city has also formed a part of the study of the club. Visits to various manufacturing plants, and exhibits sent from other factories, have aided in placing modern, practical methods before the boys and girls. The recent Textile Exposition was "taken in" by every member!

While our study of the history of other races began with the Industries Club, it has by no means ended there. Indeed, the ethnological material in the museum has really been used as much or more in connection with other activities. Lectures on the life, customs, and development of the people in China, Japan, India, the Philippine Islands, and other countries represented in the museum collections are arranged for those grades which have been studying these countries geographically. The plan has a two-fold advantage. First, as a result of preliminary study of geographic conditions and their effect on the past and present life of a people, our pupils can more readily understand the development in civilization effected by a race, and they can use the museum exhibits to far greater advantage because of this correlation with school work. In other words, the museum is assisted by the school work. Secondly, we are able to present the historical lessons in a more graphic manner, and with more variety of method than can the teacher whose only tools are books and pictures and whose only field of operation is a schoolroom. The pupils who study in the Children's Museum may hear illustrated lectures on the Philippine Islands in the classroom, then go to the cases and examine the clothing and handicraft of the Igorots and Moros and finally compare it with that of the North American Indians. So the museum has both broadened and supplemented the course of study as laid down by the school board. The implicit faith which some teachers have in the powers of the museum was evidenced by one who requested a lesson on "The

Savage Peoples of the World"—a large order, it looked to be at first—but it was filled to the evident satisfaction of teacher and class.

When these lessons based on the illustrative material in the museum are supplemented by special talks given by representatives of these countries, the impression is deepened. Three or four races have been represented in the past year—the Japanese, the Chinese, and various tribes of the North American Indians.

Finally, a series of talks was planned for the high and normal school students with the design of giving them some familiarity with and comprehension of the ideals of the Japanese people. Mr. Kijiro Tomita was the lecturer—the country, its customs, festivals, and art forming the basis of his course—and the exhibits of the Children's Museum were supplemented by selections from the wealth of material in the Museum of Fine Arts.

Here, in brief, is the beginning made by one museum in the use of its ethnological material and in the training of its visitors to appreciate and use its collections instead of giving the specimens infrequent, hasty surveys.

Miss Margaret E. Sawtelle, instructor in the Worcester Art Museum presented the following paper:

MUSEUM STORIES OF ART AND CIVILIZATION

At first thought the history of art and of civilization may seem separate and distinct. But after all, what is art but the expression in esthetic form of what civilization has achieved? To study civilization without the arts it produces is to study a plant without its flower. On the other hand, to study art without taking into consideration the type or progress of the civilization that evolved it deprives art of one of its most interesting qualities—its humanness. While, therefore, in an art museum it seems logical that the aim of a series of stories should be to give an acquaintance with art, it is hoped that such stories may contribute to our study of civilization by constantly using the latter as an indispensable background.

The story hours at the Worcester Art Museum are held every Saturday afternoon from the first of October to the middle of April. The lively audience consists (on the average) of about sixty children from nine to thirteen years of age, coming chiefly from the foreign-born section of the city. The story lasts three-quarters of an hour, and is illustrated throughout by lantern pictures. After the talk,

the boys and girls may go to the children's room to draw or do picture puzzles, or may visit the galleries in small groups. There, under the direction of our volunteer assistants (from normal or art school) they find objects connected with the story, or play gallery games.

These story hours have been held in various forms at the museum for six years. The particular kind of story I wish to describe, however, we first used three years ago. At that time, we gave a series called "People and Houses of Long Ago and Now." As this series was described at a previous meeting of this Association,¹ it is enough to say that the talks traced by narrative and discussion the development of architecture.

The second series was called "Stories of Pictures, the Magic Mirrors of the World," a phrase borrowed from G. Baldwin Brown's article on painting in the *Encyclopaedia Britannica*. Here we had three purposes in mind: first, to familiarize the children with the paintings in the museum by connecting the story each week with one of our own pictures of the same period as that of the artist for that day; after the story we all went to the gallery, examined the picture, learned title and artist and returned to the lecture room for a few moments' discussion.

The second purpose was to trace the development of painting from the spirited animal drawings of the cave dwellers down the ages to modern American landscapes, and thereby to give the children some realization of the slow centuries of conquest necessary before painters completely mastered their craft, so that they would no longer consider a picture just as a finished product, but might see in it the outcome of a struggle to solve the problems of perspective, light and shade, etc.

The third purpose, embodied in the title of the series, was to show how paintings, whether on the rock ceilings of caves or on monastery walls, really were mirrors of the world in which the artist moved; how from them you could often discover the way in which the artist and his friends lived, what their homes and lands were like, what thoughts and feelings and interests they had. A few titles will suggest the ground covered:

The oldest pictures in the world (cave-painting).

Stories told by Egyptian wall paintings.

¹ *Proc. Am. Assoc. Mus.*, VIII, 1914, 51-53.

Leonardo, Searcher of Secrets.

Velasquez, the Truth Teller.

Albrecht Dürer's strange dreams.

Watteau and Chardin, who opened palace gates and cottage doors.

The stories devised to serve these purposes had two elements. One was a simple narrative, setting forth the life and times, together with enough picturesque or important incidents to give a connected idea of the artist's career. The other element was a brief discussion of the artistic qualities of his work. Here, as in the architecture stories, it was felt that a mere statement of such qualities would mean little to the children. So instead, by means of questions they were led to discover these qualities from the pictures themselves, and tell me rather than my telling them.

For instance, in the story of the van Eycks we began by describing the long struggle of the Flemish to win their land from the sea and to keep it in freedom, and their consequent love of that land, their houses and everything in them, and their preference of real things and thoughts to visions. Then we turned to the story of Hubert van Eyck and his little brother Jan, their boyhood in the village of Maaseyck, the old monastery where they used to go to pore over illuminated books, their travels in Germany and return to Flanders. When we showed the pictures they painted there, the children were all ready to discover in them the real world the Flemish loved—portraits of real men and women, Madonnas and angels with plain faces like those of the Flemish themselves, rooms like those of Flemish houses, with glimpses of the canals and meadows of Flanders seen through windows or arcades. They found a likeness in the delicate detail of the van Eyck paintings to the pictures in the monastery books, but they could see too that the van Eycks never let these little things keep you from seeing the whole of the picture.

This year, instead of trying to follow a single branch of art through the ages, a rather different plan was tried, partly because the story teller found it a little strenuous to master a new historical or artistic epoch every week or two, and partly because she longed to go deeper herself, and to make the children more intimate with a few great periods. So this year's series was called "Journeys across the Sea," and took up the life and art of ancient Greece, France in the Middle Ages, and Japan, as three nations or periods in which art has been a particularly rich and spontaneous expression of the whole people.

The purpose here was to show how in a given nation and time similar subjects and principles are common to all the arts, and how these arts are the outgrowth of the people's civilization and the expression of their ideals.

For each country two groups of stories were used: a "background" group taking up the myths and legends, daily life, and surroundings, followed by a group in which architecture, sculpture or painting, and various minor arts were discussed. For Japan, for example, the titles were as follows:

Nippon, the land of flowers and gardens (a description of the land itself).

The gods who dwell in the High Plain of Heaven (the early mythology).

Hero legends and fairy tales (the deeds and ideals of Japanese knights).

The Feast of Flags and the Feast of Dolls (festivals and customs).

The little house of O Mume San (Japanese houses).

The shadowy temple of Buddha (temple architecture).

Hokusai the Painter (Japanese prints).

The Princess's lacquer box (lacquer making).

The story of a Japanese tea cup (porcelains).

The outline for the "Princess's lacquer box" will illustrate the method of the story:

A little princess has been born in the castle of the Daimio of Satsuma. After the various birthday celebrations the Daimio sends for the court lacquer maker and commissions him to begin work at once on the lacquer outfit which the princess will need when she is old enough to be married. The lacquer maker sets off for the grove of lac trees with his little wooden pails to hold the lac and his sharp knife to gash the bark. Then follows the description of how he gathers and purifies the lac, makes an incense box of pine wood thin as paper, applies the various coats of lacquer varnish with long dryings and polishings, and finally decorates it. At this point the children are asked to suggest what subjects of decoration the lacquer maker would be likely to use. They know from earlier stories what the Japanese love or are interested in, and so they volunteer "pictures of outdoors, of flowers, birds, dragons, etc., and of people like those seen in the Japanese prints." When asked in what besides subject these pictures in lacquer are like the prints, they tell you, "In the lines." "Are these lines real," we ask, "that is, just like the lines of real things?" "No," they say, "they are more beautiful and alive," and you suggest that probably the artist had studied real things, sea waves for instance, so long and patiently that at last he could shut his eyes and see in his mind lines that would tell you at once they were waves, and that yet were in a way more beautiful and full of life than any real waves ever were.

After this little discussion we went back to the lacquer maker, who after fifteen years of work is at last ready to take his lacquer boxes to the princess on her birthday. He then displays them one by one (the children sometimes guessing and sometimes being told the use of each box and the meaning of its decoration, as it appears on the screen). At the end there is time to give something more picturesque to fasten the subject to by telling the story which the princess's maid tells her when the two are looking at the boxes together, the story of Urashima the Fisherman, who traveled on a tortoise's back to the palace of Rin Jin, the Dragon King of the Sea, married the sea princess, and was given by her a precious lacquer box which, through a series of adventures and because of a broken promise, brought him to sad disaster. The stereoptican views for this talk showed Japanese landscape, scenes from Japanese prints, and pictures of actual pieces of lacquer in the museum.

There are several general results we have hoped for from these stories: making history, geography, and literature more vivid; giving to art objects their true meaning as the loving labor of real men in a real world; and opening the children's eyes, not only to the beauty and interest of things in a museum, but to the delight of really seeing wherever they go. But the best result of all is one which was certainly achieved in the talk which Mr. Tomita kindly came from the Boston Museum to give as a finale to our Japanese stories. Clad in his own Japanese costume he told of the life of Japanese children, illustrating his words by blackboard or ink sketches, and by delightfully manipulating real things—chop sticks, tea cups, and the like. Among the ninety children who sat spell-bound for an hour and a half was a little girl seven years old. Before going to the story she had said with a giggle, "I guess a Japanese man will be funny, won't he?" But when she came home she said, "I think the Japanese are about the nicest people in the world." To create such a happy sympathy with any nation probably requires, as in this case, an individual of that nation. But such simple stories as we have described may, we hope, help to open the door by which that sympathy can enter.

Mrs. Laura W. L. Scales, museum instructor in the Museum of Fine Arts, Boston, presented the following paper:

THE MUSEUM STORY AS AN INTRODUCTION TO HISTORY¹

Since the school, even in these modern sugar-coated days, must be the child's place of duty and drudgery, we feel glad when the

¹ Museum of Fine Arts, Boston, winter of 1916.

children come to us on a Saturday afternoon that the museum is not a classroom nor the museum story, a lesson. In the art museum, we are free to give them the happiest time possible—to make good to them our current phrase, “to enjoy art.” So, as a natural introduction to such enjoyment, we have given them a story-hour and the chance to see over and over again beautiful things, until a sculptured boy becomes an old friend and a helmet or dagger calls up the picture of a knightly tournament. “Why, the children do not look fagged!” says a surprised spectator, as if all that was expected of museums was to wear out children.

And just as story, picture, and well-known object in the museum have come to make art familiar and friendly, so they may serve history or nation-study, supplementing the facts of the schoolroom. It was the remarks of a high school boy and girl visiting our galleries which whetted our zeal for such an attempt. “Well,” said the boy, looking at the handicrafts of the ancient Egyptians, “I begin to suspect that if it were not for these Egyptians we would not be where we are today;” and the girl in the classical galleries: “I am glad I came here, it answers so many questions I have been asking myself, questions about how we got where we are today.”

To seize hold of all the charm and romance stored up in our objects of beauty and antiquity and to weave them into a background of glowing colors behind the dull or lifeless fact of a school history or geography, seemed an aim worth while. So the attempt was made this winter in a series called “Stories of the Life of a Boy or Girl in Many Lands,” beginning with an Egyptian boy in the days of the pyramid-builders—the architect, and ending with a Japanese boy in our own times—the craftsman. We had lantern slides of the time and country to vivify the story as we went along, and we followed them by a visit to the galleries so that eyes might see, though hands might not handle, the actual authentic products and survivals of the period. Thus art made far-away things come true and history made art human. So thoroughly did the two go hand in hand that some days after the story of the Greek boy a high school girl asked (somewhat to one’s dismay) if the museum had not a picture of Megacles, our purely imaginary boy of the story.

It was in order to use the story as a lever for rousing wider sympathies, as well as to fit it to the work of the schools and to take advantage of the varied collections of the museum for illustration, that this year the experiment was tried of telling original stories

instead of borrowing as usual from the rich store in books. To show the similarities in other lands and ages of a boy's heart and will, to picture a true and vivid setting to times known only by name or fact, to give a glimpse of some typical legend, drama, or poem of his country which unconsciously to himself influenced the boy's life, to do it all without giving the listening children a clue to any motive beyond that of an intense interest in the story itself, was the effort made in planning each story. And it was, of course, the appeal of the individual boy that one counted on. Against the pages in the history about the athletic training of Greek youth and the great age of sculpture in Athens, one set Megacles, the boy-winner of the Olympic boxing match, who from babyhood had caught in his father's studio the love of bronze and sculptured marble until to become a sculptor was his dearest ambition. Similarly, against a latent distrust of the East and its strange religions, one pictured Saracen Yusuf, who risked the disfavor of his own people and even his life rather than break his word of honor given to a mere Christian crusader. Perhaps a quick summary of one of these stories will show most simply the method and end of the series:

Francesco, the Italian boy of the late middle ages, the artist-monk-to-be, lived in a little hill-town with his widowed mother. After a day which had begun with no bread, and when the little fellow had played in the fields and heaped the marble feet of the good San Francesco at the monastery with primroses, his mother's tears and kisses had taught him that it was the pleasure of the saint which had at last brought food. But the mother died and the friendless Francesco was sent to be brought up as a novice at the monastery. Cut off from the gay, free life of the fields, in the midst of rules, lessons, and prayers, Francesco's heart fed itself on the painted pictures in the books and on the stories of St. Francis which the prior read at nightfall, until his days were swallowed up in teaching himself to draw here, there, and everywhere endless faces, or in trying to tame the birds and understand their song. Naturally there followed the prior's reproof and the boy's resolve to run away. But, seen and captured by two thieves who were that night robbing the sacred altar of the chapel, he was led off to play the mountebank with them. In wandering from town to town and seeing their wonderful paintings, Francesco would now have been happy, but always from the pictures above the altars the eyes of the Virgin looked at him with reproof to remind him of broken vows. At last by a bold stroke he freed himself from his rough masters, and while he was still hesitating between the open road and the straight and narrow path to the monastery, along came a knight who saw and marveled at the lad's skill in drawing, set him on his horse and carried him off to Florence. There he was apprenticed to an artist. Times of ecstasy were these to the growing boy; yet still in the churches the Virgin looked coldly upon him, and on Good Friday in the monastery of San Marco her gentle eyes overcame him. That year the

dove in the ceremony of the *Scoppio del Carro* did not run true, a bad omen, and on Easter morning the great preacher in the cathedral inveighed against them all for their sins, and Francesco after sleepless nights of uncertainty went out to the fields and lay under a tree to reflect on his course. And then the miracle happened: answering the bird's song above his head came an angel voice speaking to him—the voice of the good San Francesco, of course, singing once again and for him his duet with the nightingale. And so Francesco went back to the monastery, where soon afterwards he began to show on its walls Madonnas only a little less lovely than the great ones he had seen.

Thus Francesco's story, obviously borrowed from many sources, reflected the mingled superstition and piety of the Middle Ages, the dominating place of the church, the absorbing love of art, the life of the strolling minstrel and of the knightly patron of art, and above all, the legends of St. Francis. In some such fashion, too, the England of Drake and Raleigh and our own colonies on the eve of revolution were suggested in the stories of Devonshire Hugh and of Patience, the hardy patriot-girl.

To make any comments on the results of the series is impossible beyond the saying that the stories are evidently not forgotten by a small group of the children who have come back each Saturday since the story-hours ended in order to go into the galleries again, there to play the "research game." This big name for a simple thing means that with the help of question or suggestion, they hunt up some object which they roughly draw. One has to admit that in their attempts, art is not glorified of her children, but for an enthusiasm in her works which persists through many successive Saturdays one has only admiration.

Mrs. Agnes L. Vaughan, instructor in the Metropolitan Museum of Art, presented the following paper:

TEACHING HISTORY IN THE MUSEUM

It was not practicable this year to continue the plan of teaching the history of civilization in The Metropolitan Museum of Art, following the same method which I used in presenting the study of the origins of society, and which was described to you two years ago.¹ It would have been exceedingly interesting to have carried the same group of students into a study of historic peoples, but that was impossible owing to the graduation and consequent scattering

¹ *Proc. Am. Assoc. Mus.*, VIII, 1914, 33-39.

of the class. I have not carried on the study with a special group, but shall tell you the general plan of assistance which we endeavor to give to students of history, and certain novel phases which we have developed. In the first place, we have met the requests of teachers of history who have wished to bring their classes to the museum for single visits or for a consecutive course correlating with schoolroom work. They are given a lecture with illustrations, followed by a visit to the galleries, or are conducted directly to the actual objects. The lectures deal with the setting of a period, its architecture, manners and customs, the arts, and the predominant art expression of the time and place. The study of the origins of society was called the background of history; these studies among the arts might be called the *historical background*, if you can see any distinction conveyed in the phrase. In this work, whether treated in single visits or in series, I have tried again to implant the idea of the unity of the human race, emphasizing the expression of the fine arts as a complex development of the same instinct for invention and beauty which manifested itself in the primitive arts, modified in various nations by the character of the people and their environment. With every form of art, in every country which we have studied, we have tried to reach some understanding of the traditions and influences surrounding it. We have read portions of the Koran, and discussed political states, religions, and fashions.

A class consisting mainly of Jewish boys, studying medieval Europe, attached its interest chiefly to armor and was quite unresponsive to, in fact shy with, the religious art on which our attention was to be focused. Hoping to arouse a response, I used two of the museum periods in explaining the meaning of the cathedral sculptures, the "Mirror of Nature," the "Mirror of Instruction," and the legends of the Madonna and the saints. We talked in the classroom with photographs and gathered in a compact group before the Catherines, Georges, and Martins in the galleries. Afterwards the boys delegated one of their number to thank me for "the most interesting days they had enjoyed in the museum."

One of the pupils is a Chinese boy who listens with profound attention, but with suspended judgment. His interest manifests itself mainly in criticisms of composition, which he thinks should be orderly and uncrowded. He is my test for my ability to make these youths comprehend the life that moved among the works of the past, inspired and produced them.

Another group of boys from a commercial high school knew nothing about art, except that art objects cost a great deal of money. We studied armor and tapestries from the utilitarian viewpoint, their commercial importance, the laws and social conditions regulating their manufacture, and, interwoven with the facts, allusions to and comments on the quality and the art value of the examples which we studied. This part of our lesson was emphasized during the last session by the addition to the group of an art club of boys from another school. One boy's comment on this lesson was: "As soon as they began to hustle their pieces, they didn't do as good a job." I think the boys gathered two ideas from these lessons, one in regard to organization of labor and one in regard to standards of excellence in production.

Besides isolated or related history talks, we have given two series to children of members. The audiences varied in age from five years to eighty. We planned the talks for children of ten. The titles of the lectures were chosen with a view to spurring the curiosity of the children who were invited to attend. Subjects used in the first course were "Toys of Long Ago in Egypt and Greece," "Heroes and Monsters Illustrated on Greek Vases," "Children on Canvas," "A Sculptor and his Clay," "Men of Iron—Tales from Froissart." In the second series we made the titles quite obscure and without explanatory sub-title. Of course it was not difficult for the grown-ups to guess that "Queen Matilda's Needlework" referred to the Bayeux tapestry, or that "The Little Poor Man" would tell the story of St. Francis; but "The Child in the Vatican," and "Court and Wilderness" were really mysterious, and I do not think they were guessed until the audience actually heard the story of little Federigo Gonzaga's experiences as a hostage in the hands of Julius II, and until the court proved to be that of Henri IV, and the wilderness, our own America, explored by Samuel de Champlain.

A course of lectures to high school pupils, intended to present some vivid phase of chosen periods of history, was arranged after conference with history teachers, and followed the textbooks in use in the schools. It was given by invited lecturers and by members of the museum staff. Teachers have told me of the comments and reports their pupils gave them on these lectures, illuminating, although perhaps not always illuminated. Once in a while an echo comes to us of the actual definite effect of museum visits on school-room work. Of course, this is very gratifying, but we do not expect

it often. We hope for a general rather than for a particular effect, and the aim of teaching history in the museum is to give a broader outlook to the students and a better understanding of human society, rather than to lay emphasis on the relations of facts.

For the assistance of teachers who wish to conduct their own classes or to familiarize themselves with the collections relating to various periods, I have prepared lists of objects which will give the background or which have a direct historical association. It is proposed to arrange this data in handbook form for the use of teachers and students of history.

Mr. Franklin will tell you about his model of Penshurst, an English hall of the fourteenth century, with its furnishings and figures. This model is used constantly in connection with history and art. Are we discussing tapestries? We go to Penshurst to see how tapestries were used in dwellings. If furniture is our subject we note the side-board and carved seat, the chests, and trestle tables; and in every case we feel the life, the vivid, absorbed figures grouped about the board and the fire, the splendid aloofness of the lord and lady with their gay serving-page, and the long, slim jester interested in the long, slim hound. We are reminded of old ballads, and of old Froissart, of the Black Prince who feasted in this very hall, and of later days and the fine spirit of Philip Sidney.

There is no suggestion of a doll's house in the model, the scale being maintained strictly, and, although the lighting is cleverly managed to combine the glow of the fire and the flare of a torch with the cool moonlight outside the windows, there is no theatrical effect. The figures in the hall have none of the simpering detachment of dolls and are so engrossed in their occupations and in each other, so unconscious of spectators, that they seem to be actual people seen through the small end of an opera glass by a visitor in the fourth dimension.

Other models are in preparation which will help to enhance the meaning of the decorative arts by placing them in their relation to the life of their time. In the study of history, the arts have deeper significance than that of historical background. They are living forms of beauty as real as the hand that made them. They endure when histories vanish and peoples perish, and our teaching is without avail if it does not awaken an appreciation of the inherent need for beauty and its expression and the fulfilment of that need in all ages. Perneb the Egyptian built a tomb in which his body was to be pre-

served forever, and his Ka to have an abiding home. Perneb's body has crumbled till only fragments of it remain, bits of bone without individuality or distinction. But Perneb's tomb, built and endowed with carvings in the rock, endures, and stands for his own and his people's immortality.

Miss Lotta A. Clark, Normal School, Boston, presented the following paper:

THE MUSEUM AND THE SCHOOL

Athene sprang full-grown from the head of Zeus and in a similar way America sprang full-grown from the brain of Europe. They both lost the opportunity of growing up from childhood and their wisdom far exceeds their emotion. America needs to have her emotions stirred deeply, as anyone's emotions are stirred when the deeply-rooted associations and possessions of one's childhood are concerned. There is a wide gap between Americans today and the childhood of the varied nations of the world whose descendants make up our nation. If we can bridge that gap and bring to all American children a true understanding and appreciation of the origin, the struggle for progress, the achievement of the fruits of civilization of each race that contributes to our people, we shall have a binding force of sympathy and of mutual pride which, with its wonderful unifying power, can strengthen and perpetuate our nation.

Out of the childhood of each people come the myths of its gods and its heroes which found and produce its religion, its literature, and its art. A knowledge of the world's great myths belongs to every child and is the foundation stone of the bridge to span the gap which we have mentioned. A prominent New York clergyman has recently said that we cannot understand a nation at all until we can read its literature in its mother tongue. Even if we grant this to be true, we are bewildered at the thought of teaching American children all the languages of the people who make up our nation. So we must find other ways. One of the surest ways is through its history and its art.

When a young person has become familiar with the history of a people, the knowledge—of the masterpieces it has produced and of the objects it has made and used—is the strongest link of sympathy possible. But the knowledge must be intimate and personal; it

must be the kind that stirs the emotions or it is transient and leads to nothing productive. How a museum is to make it possible for young people to feel at home there and to get intimate and personal connection with objects so precious that they necessarily must be entombed in glass cases, is very difficult to see. And yet in my judgment unless the sepulchral atmosphere of the museum can be dispelled and the children made to feel at home with the objects and through them with the people who produced them, our work is very largely done in vain. Furthermore, unless our children gain this familiarity while they are comparatively young there is little hope of their doing it when they are older.

Many of our cities are justly proud of possessing museums of fine art. The question is "What difference do these museums make to the cities where they are situated?" The possessions gathered within these buildings represent many millions of dollars. They are the masterpieces of nations which have produced them and should be the means of interpreting to us the ideals and capabilities of the people who produced them.

Many thousands of people visit museums in the course of the year. They go from room to room, pausing a moment before the pictures or the cases, and when they go away feel on the whole that they have enjoyed and profited by the visit. But there are many more thousands of people who never enter a museum at all, who regard it rather as a tomb for the things of those who are dead and a place to be avoided. It is noticeable that a large number of foreigners visit our city museums, and there are two obvious reasons why they do this. In the first place they are trying to learn all that we have to offer them, and the museum with its collection of beautiful objects is open free to all who care to come and learn on Saturdays and Sundays. In the second place it must be a satisfaction to many of these children from Europe to find in the museum, vases, statues, pictures, and coins which have been used by the people of their own country even at a remote time. They feel here the connecting link to their own childhood and to that of their people. It must stir in them deep wells of pride and satisfaction to know that the masterpieces of their native country are regarded as precious possessions in the land of their adoption. Those who are wise enough to consider it, see that these people from foreign countries may pour into our national life many of the same elements of achievement of which our museum has a valued collection, and if we would have a child

of our school understand the riches of those nations which are feeding ours so powerfully, how can we do it better than by helping each American child to get the intimate touch with the masterpieces of the civilized nations that we have collected in our museums? Some slight evidences of success encourage us to work to any extent to get more of it.

The officials of our museum in Boston have been most helpful in making it possible for us to undertake this work. They have generously issued tickets to teachers and pupils which have made it possible to make frequent visits to the museum. They have published catalogs which are simple and helpful to pupils who are visiting the museum alone. They have made special lists of objects in the museum which could be used as preparation for visiting the museum to study the special periods of history, foreign language, and other subjects. They have sent their specialists to the schools to give illustrated lectures in order that the children might feel familiar with the objects before they reach the museum, and might recognize them and recall their significance when they find them in the museum.

The talks given by the docents to the children who visit the museum either alone or with teachers are wonderful helps to many teachers who could do almost nothing in museum work without this assistance, and this leads the children into the habit of visiting the museum on their own account and of applying, themselves, to the docents for information and instruction.

Another service of very great importance is the help given by the museum to teachers and pupils in selecting material for decoration of their own schools and classrooms. It is often the custom for classes to make presents to the school and in the course of a few years considerable material more or less decorative accumulates in the school buildings. Where no special plan of decoration is followed, these pictures and casts become a somewhat unpleasant possession of the school, and it is believed that if some thought is devoted to a constructive and artistic plan of decoration a great gain might be made not only in the appearance of school buildings but in the collection of material that would be valuable from an artistic and educative point of view. To help carry out this plan, Mr. Elliott, of the Boston Museum, arranged an exhibition of rugs, vases, paintings, and prints in the museum and invited teachers and classes to visit it in the hope that a knowledge of the prices of

these unusual forms of decoration would prove of assistance. In addition, loans of materials from private collections were made and two schoolrooms were beautifully decorated as examples of what might be accomplished in this direction.

Through the assistance of the museum also, objects like coins and vases have been loaned to the schools and actual association with these objects has done more than anything else to bring about in the minds of the pupils an appreciation of the people who made them. An invaluable service has also been rendered by the museum school in making plates in water color of historic and artistic costumes. These will be the valued source of material for study and use for many years to come.

In closing, may I cite a few instances of the intimate experiences that some of our students have had with original material this year. They are to be teachers next fall, and we are anxious to send them forth with some real and deep appreciation of the nations whose history they are to teach to the children. They have tipped a kylix to their lips. They have studied Greek coins at their leisure, and have bought some for themselves. They have held in their hands a vase made in Egypt when Joseph was there, and have fitted their fingers into the finger-prints left by the potter. They have passed from one to another a scarab necklace containing an especially fine scarab of Thotmes III. They have admired a little Roman lamp burning in their classroom, and have dramatized scenes from the life of Assyria, Egypt, and Greece. The best evidence that the feelings had been deeply stirred was the remark of a young girl to a lecturer on Egypt at the Museum. As she shook hands to express her thanks she said, "This is the hand that has touched the head of Aknahton."

The Chair.—"This very delightful and exceedingly interesting symposium arranged by Miss Slocum is now open for discussion."

Miss Slocum.—"May I call attention to the order in which these papers have been presented?"

"Miss Griffin describes the teaching of the history of civilization through the children's museum, and as the course develops, carries the children on to the museum of fine arts.

"Miss Sawtelle and Mrs. Scales bring out the teaching of the history of civilization through the story hours of art museums.

"Mrs. Vaughan takes up the study with the older pupils, especially those of the high school.

"Miss Clark carries on her work with college graduates and with those who are preparing to be teachers.

"Thus our cycle of papers, which began with the youngest children, extends on through the school to the college graduate and returns to the school again."

Dr. Walter Hough (United States National Museum).—"What is being done for the children now-a-days fills me with great envy. This splendid effort is sure to make the world better.

"Fifteen or sixteen years ago the National Museum undertook to make exhibits illustrating the history of inventions. These have attracted the greatest attention. We had a series of these exhibits at San Francisco last year and I was surprised, but I am not surprised now, to see the alertness of the school board in preparing lists of things to see at the Exposition. They included in a prominent position 'See the Smithsonian Exhibition and especially the history of invention.' I believe all the school children in San Francisco saw these exhibits of fire-making, of spindle and shuttle, of the development of the stone axe, etc. I had the pleasure of telling the stories of these exhibits to students from colleges and universities, and down to the little kindergartners."

Mr. Benj. Ives Gilman (Museum of Fine Arts, Boston).—"Two years ago at our meeting in Chicago I gave a simple definition of museums, which seemed to arouse some amusement. I said it often seemed to me that a museum of art or history was a place where things out of date were gathered in order to become more so. (*Laughter.*) If this is true it makes evident the clear and direct connection between the teaching of history and museums. The teaching of history tells us about the very things that are in museums, and it seems singular that we have not taken advantage of the opportunity museums afford for illustrating history. The possibilities of vivifying the studies of man and his history offered by our museums are simply tremendous.

"I would like to ask Miss Clark to describe a little more fully the way in which she uses museum collections to bring out what America owes to the past."

Miss Clark.—"Our problem is that of teaching teachers. This year we have had over one hundred college and normal school graduates who are going into the schools of Boston next fall to teach history.

My appreciation of what Mr. Gilman has just said is intense, because the interest of my work lies in the extent to which I can prove to these teachers that the art museum is indispensable in the teaching of history. The question is not how much enjoyment they derive from their own visits to the museum, but what they are going to do when they take their classes to the museum. Perhaps the simplest illustration of the way we have shown that the art museum is indispensable is this: After we had studied Greek life as shown in the art museum, we came to realize very suddenly how much more we really felt about Greek life than we did about Canadian life or Brazilian life. We have learned about Greece, as well as about Canada and Brazil, through our histories and geographies, but we must give the credit absolutely to the art museum for making Greece real to us.

"In training our young teachers, who are to be citizens as well as teachers, we feel that we must give them a very broad view of the great human family upon the face of the earth as it is today; that they must be something more than American citizens; that they must be world citizens. Not only must they be able to give credit to the accomplishments of the nations in their own countries, but if they are going to be economically successful they must learn to make use of the very rich gifts within the people who have come to claim this country as their own. For example, after having studied Egypt under peculiarly favorable circumstances in the art museum this year, I felt that I had carried down into the heart of Egypt these young Americans who are only interested in things that are real and active. One student said: 'How wonderful it is that Egypt teaches us about its life through its great concern about death! If Egypt had not had a great concern about what would happen to its people after death we would know almost nothing about Egypt today.' That gave me a very wonderful chance, because it is the passion of immortality that is crystallized in the art of Egypt. The whole race was living for the assurance of immortality. Very easily this idea led up to the conclusion: 'For what ideal are we striving?' The Greeks, on the contrary, strove for a well balanced and beautiful life. They cared nothing for immortality and their ideal was crystallized in their wonderful art. Again the question came: 'How are we different from the Greeks? Do we care for immortality as the Egyptians did? Are we passionately devoting our lives to a beautiful and well balanced life in this existence?' And finally the whole course has worked itself out in this result: 'What are the American

ideals? How do they compare and contrast with the ideals of the nations that have built the foundation?"

"I think I need say no more to convince you. I am sure that it is only in the museums that we can find the ideals of the ancients perpetuated." (*Applause.*)

Mr. Harold H. Brown (John Herron Art Institute).—"I think the instruction given by museums could be bettered if there were more maps connected with the exhibits, and many more chronological charts of small size. After a good many years of painful effort I think I may say I have a fairly clear mental map of the countries of the world, so that when Greece is mentioned I can in imagination put my finger on the point where Greece is, but if you ask me where some particular city in Greece is I begin to wobble a little bit, and if I, who have devoted a good many years to this problem, begin to wobble, I know perfectly well that public school children not only wobble but don't see anything at all.

"In the same way, when they show me an exhibit illustrating steps in development from the stone-age axe to the completed polished axe of the American manufacturer, I immediately wonder in what historical epochs one stage or another was developed. In a little textile exhibit at Hull House in Chicago some years ago, I saw a chart illustrating the development of spinning. A straight line, reaching from the early civilization of Greece to a point somewhere in the eighteenth century, showed that there had been absolutely no change in the methods of spinning in all that time. Then the line rose suddenly at the time of the invention of spinning machines and of textile processes. I have never forgotten that long unchanging line with its sudden rise in modern times.

"I make this appeal to emphasize the value of small maps indicating in vivid colors the place with which the exhibit is connected and small charts illustrating chronological development graphically." (*Applause.*) ,

Mrs. Emily G. Gibson of the Cleveland Museum of Art reported a very successful use of such maps as were advocated by Mr. Brown.

In the absence of the author, the following paper by Mr. S. C. Simms, curator of the N. W. Harris Public School Extension, Field Museum of Natural History, Chicago, was read by the Assistant Secretary:

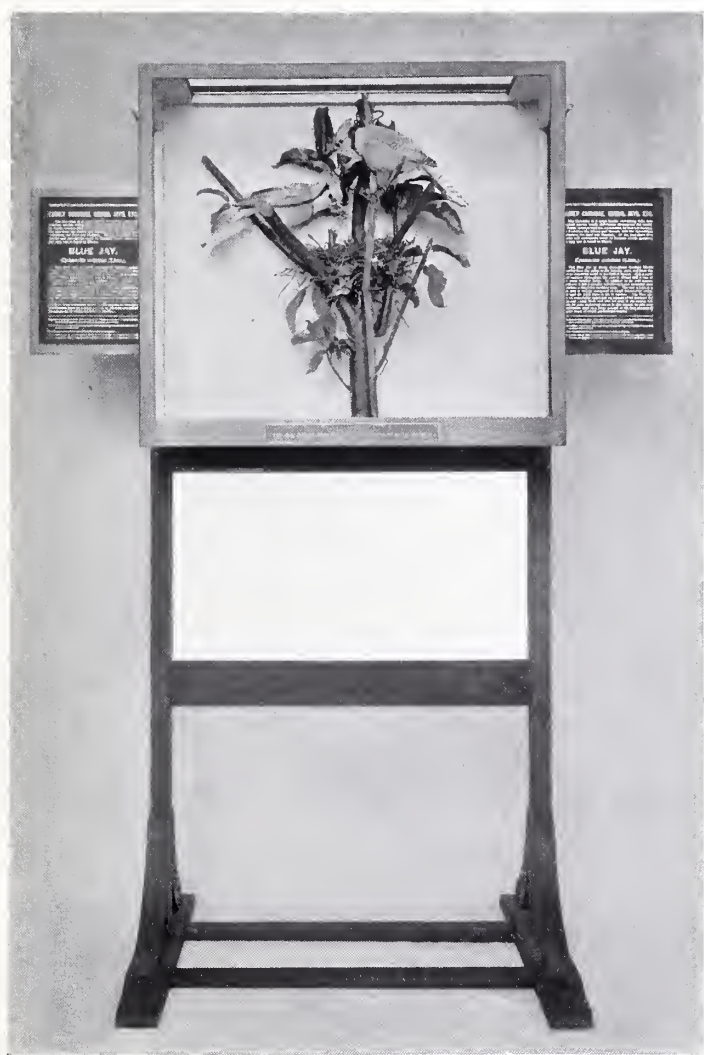
THE DEVELOPMENT OF THE N. W. HARRIS PUBLIC SCHOOL EXTENSION OF FIELD MUSEUM OF NATURAL HISTORY

Field Museum of Natural History has tried out its plan of cooperation with the public schools of Chicago, and the experiment has already indicated that the scheme or plan of The N. W. Harris Public School Extension of Field Museum has become a popular and valuable factor of the public school curriculum.

Though Dr. Frederick J. V. Skiff, director of Field Museum, in an address on "The Uses of Educational Museums," delivered before the forty-fourth annual convention of the National Educational Association at Asbury Park in 1905, strongly advocated the diffusion of knowledge through the medium of traveling museums, it was not until nearly ten years afterwards that the generosity of Mr. N. W. Harris, of Chicago, made it possible for Field Museum to inaugurate its present plan of extending the museum to the public schools of Chicago.

When Mr. Harris learned that neither Field Museum's collection nor its lecturers seemed to attract the attention of the public school children to the extent that the trustees believed was to have been anticipated, notwithstanding all school children were admitted free on all days, he offered to cooperate with the museum in extending the institution into the classrooms of certain grades of the public schools. Mr. Harris' offer resulted in an endowment by him of \$250,000. The gift of Mr. Harris is regarded by President Stanley Field, of Field Museum, as only second in importance to the original gift which led to the foundation of the museum. Even with this gift, the project was not a matter of a day, and it was not until after fifteen months of continuous work, in which sculptors, taxidermists, photographers, and craftsmen had cooperated with the scientific staff, that the museum was ready to serve the schools.

It was after very careful consideration and many experiments as to size, style, and character of exhibition case to be used that the present type was adopted. It seems to have met all the requirements demanded of it. Each case is 24 inches long and 21 inches high. The depths of the cases vary, being 10 inches, 7 inches, and 4 inches. The ends and tops of the cases of 7 and 4 inch depths are of mahogany, and the backs and bottoms of all cases are of veneered poplar.



TYPE OF CASE ON RACK. N. W. HARRIS PUBLIC SCHOOL EXTENSION
OF FIELD MUSEUM

Each case has two handles for carrying by pupils from one room to another, and has also two metal hangers for hooks.

It has been found that the type of case having a depth of ten inches accommodates in a life-like position so large a subject as a mounted specimen of the great horned owl with section of tree containing nest with eggs and young. Cases of this depth are the only ones provided with top and end lights, which help to remove the mere box-like appearance, and permit observation of the encased subject from many viewpoints. After the installation of a hundred cases of this depth with bird and mammal subjects and a wide range of accessory work, I am convinced of the many possibilities that this type of case offers for a truthful and attractive portrayal of mammal and bird life, together with reproductions of foliage, plants, rocks, sections of grounds, etc.

The type of case having a depth of seven inches has been used almost exclusively so far for entomological subjects, being well adapted for displaying moths and butterflies on reproduced foliage representing food plants, and for the installation below the food plant of the various stages in the metamorphosis of the moth or butterfly. This type of case is also well suited for an attractive treatment of a wide range of fishes.

The possibilities to which the cases of the depth of four inches may be put for materials of economic character, have been demonstrated by the use of more than fifty of them for the installation of specimens of various raw and finished products and of many intervening steps of progress.

When the first few cases were sent to the schools, an unattached framed descriptive label was sent with each case, or perhaps I should say was to have been sent, for in one or two instances the labels were forgotten by the messenger delivering the cases. Forgetting the label necessitated the return of the messenger to the museum, and another trip to the school. To prevent a repetition of this occurrence the present method of having two framed labels form structural parts of each case was adopted. These framed labels are so arranged at the right and left sides as to permit them to be pushed from view behind the case when being transported to schools, and to be pulled out in full view of the teacher and pupils when case is displayed in classroom. In addition to the prevention of forgetting labels, additional space for the continuation of the information from one label to another is gained, likewise the advantages of having duplicated

labels which permit the study of a case by a larger number of pupils than if but one label accompanied it. A frame may also be used for a photograph, drawing, or map.

Black-painted thin wooden tablets, each having a space of three by five inches for the installation of solid economic specimens are being constantly used with great satisfaction. The lower portion of these tablets is provided with a grooved block for specimen or individual labels five inches long by one inch wide. At times, but not frequently, a specimen is too large for the standard specimen holder. When this does occur a special tablet of the size of two or even three of the standard tablets is made. By doing this the spaces showing on the back of the case between the tablets are uniform.

For displaying powders, cereals, and specimens so small as not to lend themselves to safe installation upon tablets, a box-like container of black-painted thin wood is used. This container has the same width and height as the tablet specimen holder and a containing depth of one-half inch. It has a face of thin clear glass, and beneath, like the tablet, it has a grooved block for a label. To fill the container, the narrow one-half inch top or lid is removed by unscrewing from the back. After container is filled, the lid is tightly screwed in its place. This method of showing small particles and powdered substances in an upright position, with a flat viewing space of five by three inches, is thought to be superior to one using small tubes and bottles, which generally magnify or distort their contents and restrict the examination of the contents to a much narrower space than that of a flat-faced container having a capacity equal to the tube or bottle.

By adopting specimen tablets and flat-faced containers, each five by three inches in surface dimensions, an exhibition case having a width of 24 inches and a height of 21 inches will easily accommodate sixteen specimens without giving the appearance of being crowded.

After arranging and securing the specimens to the tablets and in the containers, they are placed in the order desired on the previously removed back of the case, and are securely fastened to the same by means of screws, the heads of which are hidden from view when the specimen labels are placed in their grooved holders beneath the specimens.

In support of the claim of the secureness of the installation of many varied specimens by means of tablets and containers, I offer the evidence of several cases so installed having been transported by

freight from Chicago to San Francisco and return. In not a single instance was it necessary to repair any damage or to reinstall any specimen.

In many of the cases in which birds and mammals are shown, an enlarged colored photograph of the habitat or of a characteristic environment of the specimen, forms a background which greatly adds to the realism of the taxidermy and the artificial accessories, and reduces the need and use of much of the latter. This is specially so where accessories are employed to represent a section of ground, or of water, or both.

To facilitate the distribution and the recording of cases, an initial and a number are stenciled on either end near the top of each case. A case containing anthropological material bears the initial A, botanical material B, geological material G, and zoological material Z. Cases are numbered in the order of completion, except where the subject is reproduced, as is often the case; then all cases of a like subject installed subsequent to the original case bear the number assigned to that case. As the cases are placed in the delivery car so that either end of them is exposed to the view of the messenger, this system of initialing and numbering insures prompt identification of cases to be delivered to schools which have been previously designated on receipt cards to be presented to the teacher by the messenger.

The room at the museum which is devoted to the delivery of cases to, and the receiving of them from schools is divided into four parts. Each part is furnished with racks for hanging the cases. Upon one group of racks cases containing botanical subjects are hung, upon another group cases of geological material, and so on. This grouping saves time and reduces mistakes when loading the car with cases for delivery.

The safe and economical transportation of cases to and from schools was a subject to which considerable thought and investigation was given. The consideration given the subject resulted in having a motor-car body constructed after carefully made plans. The body of the car is fitted with four shelves, each having a depth equal to the length of a case, and the spaces between the shelves equal to the height of a case. The shelves are fitted with grooves for interchangeable partitions covered with thick felt, which prevent injury to the cases and allow compact and safe loading. About fifty cases can be well taken care of at one time. Both room and accommodations are provided in the car for a messenger to clean the glass of cases or to

refasten any loosened specimen, thus avoiding the necessity of returning to the museum for these purposes. A simple frame, 27 inches long by 23 inches wide, of felt-covered wood, capable of holding four cases at one time, is used in carrying them from the delivery car to the classrooms. A waterproof hood is used to protect the cases from snow and rain while they are being carried from the delivery car to the school building.

Owing to a ruling of the board of education which forbids the marring of classroom walls with nails or screws, it was necessary to adopt a standard or rack (as shown in the illustration) for displaying the cases in the classrooms. Upon each rack there is fastened a placard setting forth the rules governing care of loan collections, directions to reach Field Museum, and regulations covering the free admissions of school children and teachers. These standards are supplied by the board of education.

After a very careful examination of an exhibit of several of the types of cases, Dr. Maria Montessori said the following in an unsolicited letter:

I admire very much the way in which nature is interpreted in this exhibit. The units attract the child's attention and do not teach errors. They truly represent nature. Besides, they have the added value of permitting prolonged observation of the many details which in nature could only be seen in passing glimpses and to which it would be hard to attract the child's attention. The knowledge of these facts observed in this way makes the future observation of real nature more interesting to the child.

I consider this collection a most desirable contribution to school work and education generally. I hope that many more of these beautiful exhibits may be made.

As an evidence of the value of the cooperation between The N. W. Harris Public School Extension of Field Museum and the public schools of Chicago, the following letter of recent date from John D. Shoop, superintendent of schools, to Director Frederick J. V. Skiff, of Field Museum, is offered:

I deem it a duty as well as I esteem it a privilege to write you in testimony of the results that, in the past few years, have attended the closer cooperation that has been established between the public schools and the museum.

The bequest made by Mr. N. W. Harris has proved of great value to the schools. The exhibits that have been assembled under the direction of Mr. Simms are valuable factors in intensifying and enlarging the interest of the pupils in the spheres of industry and nature. I am certain that you will be pleased to know that the movement made possible through the benevolence of Mr. Harris is eventuating in so much of interest and profit to our public school system.

President Farrington.—"I would like to call attention to the fact that samples of the cases described by Mr. Simms are on exhibition in the back of the room."

The Chair then invited Miss Viola M. Bell of Teachers College, Columbia University, to present the following paper:

POSSIBILITIES OF COOPERATION BETWEEN MUSEUMS AND SCHOOLS IN TEACHING HOME MAKING

Teachers in general are becoming aware of the educational value of museums and many are finding them almost indispensable adjuncts to class work. The field is rich in possibilities for the school and the museum, for cooperation in the organization of branch museums, and in the preparation of special permanent or traveling exhibits. Teachers of household arts use much illustrative material, for they realize that through this medium students more readily understand and appreciate the development of art, industry, and science. It has been very difficult to obtain desirable material of this sort.

As a definition for household arts, we may take this: "a study of the economic, sanitary, and esthetic aspects of food, clothing, and shelter, as connected with their selection, preparation, and use by the family in the home or by other groups of people."

The suggestions which I offer for exhibits, therefore, will be in partially tabulated form under the three main divisions: food, clothing, and shelter and household management.

I. FOOD

1. Food industries from the raw state to the product finished for market. (a) Growth. (b) Cultivation. (c) Production. (d) Manufacture.

2. Meats. Mounted skeletons of fish, fowl, lamb, veal, beef—familiar as such but gathering more meaning when related to various cuts of meat. Economic and scientific advantages are thus offered to the public and the school.

3. Composition of foods. Upon the composition of foods, we base our principles of cookery and nutrition. For instance, the actual amounts of water, fat, protein, carbohydrate, and mineral matter or ash in a pint of milk might be exhibited. Many other foods would give a vivid impression in the same way. A series of charts showing the percentage composition of food materials is obtainable from the United States Department of Agriculture. The Bethnel Green Museum of London has portrayed the amounts of the constituents of the human body. A similar exhibit would be appreciated in relation to household arts.

4. One-hundred-calorie portions. Since our bodies are maintained by the intake of foods, we may measure their value for this purpose by the heat of their combustion. The unit of heat is known as a calorie. Many ordinary servings of food contain one hundred calories. Models in wax of common foods bring out striking contrasts and interesting comparisons of the amounts necessary to give one hundred calories.

5. Dietaries. From the above we may work out combinations of foods for one meal or for the three meals of a day. The number of calories we require is determined by our occupation, our size, and our age. Suppose we arrange a day's diet for a boy of ten years, 1800 calories:

BREAKFAST	DINNER	SUPPER
Apple	Steak (2 portions)	Macaroni with cheese
Oatmeal	Baked potato	Bread, Butter
Bacon	Asparagus (1/5 portion)	Milk (2 portions)
Bread, Butter	Lemon jelly, Cream	Custard

The above is just a suggestion. Daily rations for a child of two years, for a stenographer, for a day laborer, or for an aged grandfather, may all be depicted. Through an organized popular exhibit the public may be taught how to select food, in other words "how to keep well." The field is new. One telling display of this sort accomplishes more than any number of talks about feeding. Pleasing and proper combinations, variety and choice of foods, and comparative costs of foods and meats find a place here. To stress the need of proper food for growth and development to the stage of maturity, Miss Alice Ravenhill of England recommends the placing of an infant skeleton beside that of an adult for comparison. Carnegie Institute in a clever fashion pictures the results of choice of good and poor food upon the growth of two rats of the same age. One was stunted in growth after four months of the experiment, being only the size of a third rat of normal growth one-fourth its age.

6. Factors in the cost of food. For example, one dollar spent on granulated sugar might be traced through the successive steps, giving the cost at each stage—growth, labor, refining, transportation, storage, demand and supply, retail consumer.

7. Bacteria, yeasts, and molds (enlarged). The exhibit should show types, development and growth, effect upon food in its relation to man, and methods of control.

8. Pure foods. Standards of purity. Adulteration, including types, effect upon food, and effect upon man. Cost of foods. The United States Bureau of Weights and Measures offers valuable material concerning the frauds practised in the use of various food containers.

II. CLOTHING

1. Raw materials for clothing These may be classified by their origin as animal, vegetable, metal, and artificial production (e.g., artificial silk and celluloid).

2. Growth and development of plant and animal material. For example, cotton—its geographical distribution, varieties, cultivation, and the processes in preparation for spinning.

3. Manufacture of cloth. Felting, weaving, netting, and knitting. The weaving exhibit might include hand, Indian, horizontal, Jacquard, and tapestry looms. Other subjects for illustration would include dyeing, design-printing, and mercerizing.

4. Classification of textiles. This would include damasks, velvets, tapestries, brocades, embroideries, laces, and carpets, with their widths, prices, etc.

5. Judging and testing. Fillings, weighing, imitations, physical properties (effect of heat, acid, and alkali), elasticity, porosity, and strength.

6. Budgets of clothing. These should include a school girl's wardrobe, a business man's wardrobe, a child's wardrobe, a woman's wardrobe, etc.

7. History of costume. One of the greatest aids to the student of clothing is the history of costume. Photographs, paintings, and descriptions are valuable, but we all agree that an authentic model is preferable. The Metropolitan Museum of Art has a collection of thirty dolls, designed and executed by Mrs. Theodora R. Lightfoot, showing all the important changes in dress during the past five hundred years. They are not only authentic in style, but accurate in design of fabric and lace, harmonizing with the small size of the doll. Four dolls represent American periods, while the others are German, French, Italian, and English. The Newark Museum has taken a forward step in the use of dolls dressed in American historic fashion to vitalize history teaching. Museums with a permanent or traveling exhibit of historic costume could afford invaluable opportunities to schools, colleges, and institutions throughout their own and neighboring states.

III. SHELTER AND HOUSEHOLD MANAGEMENT

1. History and development of primitive, ancient, medieval, and modern shelter. The wattled hut, tepee, wigwam, igloo, lodge, tent, cave, sod house, pueblo, cliff dwelling, adobe, bungalow, and country house. In a neighboring park there might be developed the national history of architecture, and the architectural styles and fashions of our country.

2. The building of a house. This is well represented by a so-called educational miniature house, showing the details of elevation, foundation, studding, floors, chimneys, windows, doors, etc., all constructed in such form that they can be taken apart and each phase of construction studied. Housing exhibitions are regular outdoor affairs in England.

3. Heating. Materials, with their sources, fuel values, costs, and their advantages and disadvantages. Development of stoves and heating appliances.

4. Water supply. Sources of water supply in local community. Sources of contamination, and methods of purification. Model of filter plant. Enlarged view of types of bacteria present in water. Excellent exhibit of this item in American Museum of Natural History in New York.

5. Equipment. (a) Depict the furnishings of various rooms from an artistic and economic standpoint, e.g., a model kitchen that looks natural and is not too expensive to be considered by ordinary people. "How to furnish a flat for two hundred dollars" is a practical problem to many young married couples. The Toledo Museum of Art has two rooms furnished at about the same cost, one beautiful, one ugly. The director offers advice to all in regard to getting the most beauty and utility in home furnishing and decoration. It is gratifying to see this work

made so practical. (b) From another viewpoint, a collection showing the development of cooking utensils from the primitive bowl, plate, and spoon.

6. Household pests. More general diffusion of knowledge concerning the control of household pests and the prevention of their ravages is highly desirable. Classes of pests: Annoying but not necessarily destructive forms, disease carriers and transmitters, essentially destructive forms. Remedial methods: fumigation, poisons, sprays, dips, etc.

7. Hygiene and sanitation.

In conclusion I wish to call attention to some of the many contributions already made by museums, which may be correlated with household arts. The Teachers' Museum of Boston shows modern methods of raising, preparing, and transporting food. The Educational Museum in St. Louis has portrayed the production of food-stuffs, industrial products in various stages, and materials for clothing. All of these are of much assistance. The museums in Newark and in Milwaukee, with their lectures and exhibits for schools; the Children's Museum in Brooklyn, with its historical exhibits; and the Field Museum in Chicago, with its lantern slides of tuberculosis, are all of interest and great value. The Charleston Museum, in South Carolina, The Philadelphia Museums, and the Educational Museum in St. Louis are to be heartily commended for their remarkably successful work with traveling exhibits.

Various agencies which may be called upon are: the Department of Surveys and Exhibits, Russell Sage Foundation, New York City; The National Child Welfare Exhibition Committee; the Bureau of Commercial Economics, offering hundreds of industrial films free; the National Society for the Prevention of Tuberculosis; and, last but not least, The United States Department of Agriculture.

May you make it possible for the teacher of household arts, whether in city or isolated community, to call upon the museums for instructive and valuable materials in the visualization of world home making.

Mrs. Agnes L. Vaughan (Metropolitan Museum of Art).—"I have not met the students from Teachers College in connection with this course. Obviously the Metropolitan Museum of Art has no means of teaching anything about food calorie value, but we have done a great deal of work with the high schools in connection with costumes and home decoration. For pupils who come to study color schemes we use the museum collections and examples of textiles arranged

according to periods for class studies in the decorative arts. We have had some rather amazing developments from our talks to classes on costumes. In one instance a group of students, including several Italians, arranged to have the Italian club of their high school come to the museum to study the Italian paintings with a view to making costumes for tableaux. Their interest became so great that they copied the pictures in their tableaux. I would like you to note the connection a museum of art can have with such a course of study."

At this point President Farrington resumed the chair and declared a recess of five minutes. When the Association reassembled, President Farrington spoke as follows:

President Farrington.—"When the term of the President was extended to two years it was provided that the retiring President should become an ex-officio member of the Council. It was left uncertain whether this meant that he should take the place of one of the two Councilors elected in that year, or whether he should be an additional member. Since the term of the President is two years it is thought better that the retiring President should take the place of one of the members of the Council elected in that year. It also seems desirable that the Vice-president should serve two years in order that his term may coincide with that of the President.

"For these reasons the Council proposes the following amendment to Article IV of the Constitution:

The officers of the Association shall be a President, a Vice-president, a Secretary and a Treasurer, and six other persons designated as Councilors, and these ten shall constitute the Council.

The President and the Vice-president shall each serve two years, and during the succeeding two years shall be ineligible for re-election to the same office. The Councilors shall each serve three years, and for one year thereafter shall be ineligible for re-election to the same office. Two Councilors shall retire annually and two Councilors shall be elected annually, except that, in the year of a presidential election, the retiring president shall become a Councilor and the Association shall elect one other Councilor.

Upon recommendation of the Council the Association may elect an Honorary President to hold office for the term of two years. An Assistant Secretary may also be elected.

This amendment was unanimously adopted. The Association then proceeded to the election of officers with the following result:

President:

Henry R. Howland, Superintendent, Buffalo Society of Natural Sciences, Buffalo, N. Y.

Vice-president:

Newton H. Carpenter, Director pro tem, Art Institute of Chicago, Chicago, Ill.

Secretary:

Paul M. Rea, Director, The Charleston Museum, Charleston, S. C.

Assistant Secretary:

Laura L. Weeks, Secretary to the Director, The Charleston Museum, Charleston, S. C.

Treasurer:

W. P. Wilson, Director, The Philadelphia Museums, Philadelphia, Pa.

The retiring President, Dr. Oliver C. Farrington, became a member of the Council as required by the Constitution and the Association elected to the Council Mr. Harold L. Madison, curator of the Park Museum, Providence.

The Association voted that nominations for office may be made by nominating ballot at the option of the Association.

The Association then adjourned for luncheon. The afternoon was devoted to an inspection of the Corcoran Gallery of Art and to a special session on "Instruction Service in Museums."

SESSION OF TUESDAY, MAY 16

Afternoon

The afternoon session was in the nature of a sectional meeting for the benefit of those interested in the problems of instruction service in museums. It was the outcome of a gathering of museum instructors and other persons interested in work of this character at the Metropolitan Museum of Art in New York in May, 1915. This gathering was so successful that steps were taken to determine the advisability of forming a permanent organization. It was ultimately decided, however, to unite with the American Association of Museums.

The meeting was called to order by Secretary Paul M. Rea, acting on behalf of the President of the Association, who extended a cordial welcome and expressed the pleasure of the Association in setting apart this special session. He requested Mr. Henry W. Kent, secretary of the Metropolitan Museum of Art, to preside in recognition of the fact that Mr. Kent had been largely instrumental in the suc-

cessful development of the work to be reported at this session. Mr. Kent then took the chair.

The program for the afternoon consisted in a presentation of the results of a questionnaire which had been circulated for the purpose of obtaining more accurate information regarding the instruction given in museums. The subject was introduced by Mrs. Agnes L. Vaughan, instructor in the Metropolitan Museum of Art, who explained the purpose of the questionnaire and gave a summary of the replies received to the several questions asked. Mrs. Vaughan's introduction was followed by a number of brief papers describing the work of particular museums more fully.

Mrs. Jeannette M. Diven, director of the Arnot Art Gallery, Elmira, N. Y., described the annual exhibition of children's drawings at the Arnot Art Gallery.

Dr. G. Clyde Fisher, assistant curator of the department of public education in the American Museum of Natural History in New York, described the methods of instruction in that museum.

Miss Alice W. Wilcox, director of the Fairbanks Museum of Natural Science in St. Johnsbury, Vermont, discussed the relations of that museum with the children of the public schools, and especially the methods of testing the knowledge of the students by means of required reading and reviews.

Mr. William L. Fisher, assistant curator in the Philadelphia Museums, discussed the system of school credits arranged between the museums and the schools.

Miss Agnes L. Pollard, curator in the Museum of the Staten Island Association of Arts and Sciences, discussed the subject of experimental examinations in connection with the work of her museum.

The program was concluded with two papers, one by Mrs. Laura W. L. Scales, museum instructor in the Museum of Fine Arts, Boston, and one by Mr. William L. Fisher of the Philadelphia Museums. The subject of both papers was "Connections with Colleges."

These papers gave a very interesting and complete picture of the present state of development of museum experiments in formal class instruction, and were the subject of extended discussion. The general sentiment indicated that this phase of museum work is only beginning to receive the attention it merits, and that its most promising feature is to be found in the desire of those engaged in museum instruction to fit their work in the most helpful way to that of the public schools.

SESSION OF TUESDAY, MAY 16

Evening

The evening session was called to order by President Farrington, who requested Mr. Benj. Ives Gilman, secretary of the Museum of Fine Arts in Boston, to preside. Mr. Gilman then took the chair.

Mr. Herbert E. Sargent, director of the Kent Scientific Museum, Grand Rapids, presented a paper in which he described his successful use of vacant store windows for the display of exhibits advertising the museum.

Miss Margaret T. Jackson, assistant director of the Minneapolis Institute of Arts then presented the following paper:

ADVERTISING AN ART MUSEUM

There has never been a time in the history of the world when advertising was so necessary to the success of every enterprise as now. The public, in fact, has become so used to brilliant color and flaming headlines that demand for this sort of thing has been created. The best of it is that advertising is getting more and more artistic, and popular taste is being educated day by day. A passenger in a street car looked at the cover of a new magazine he had evidently just bought, and then, before opening its pages, turned it over to look at the advertisement on the back. The great advertisers have learned that art pays, but, what is more extraordinary, advertising pays, no matter how vast the sums expended. One of the largest and best attended churches in Minneapolis advertises regularly every Saturday in the local papers. It not only runs the usual small announcement of the Sunday services, but takes six inches of display space in three newspapers, which costs eighteen dollars per week. That it pays is evident, because the attendance, especially at the afternoon and evening services, increases every time the advertisement appears and drops off every time the advertisement is left out. And, not only does the size of the congregation increase, but, incidentally, the collection is enough larger to more than pay for the cost of the advertising. It is the aim of all museums today to keep up with the times, and if it has become the practice for even churches to advertise for congregations, certainly it is time for our museums to do more in this line.

The time has gone by when the trustees of a museum are satis-

fied to have their institution merely a storehouse of dead art. It must be a living and vital force in the life of the community, and in order that this shall be so, something must be done to bring the people to the building.

Educational work with the school children is of course the best method of advertising that could be devised, for where the children know and understand the collections the use of the museum by the "grown ups" is bound to follow. So strongly has this been felt that museum instruction has now become a distinct branch of museum work.

But there are many other forms of advertising that have received the sanction of usage in our best-known museums today. The commonest of these is, of course, the use of display cards in or upon the street cars of the city. In some cities these are only used in the cars running directly to the art museum. In other cities they advertise the collections or temporary exhibitions and are to be found in all the cars. In certain rare instances where the president of the street car company happens to take a special interest, these cards are carried free. In other places the museum is obliged to pay for them as any other enterprise would have to do. But the art of advertising does not stop with the decision to spend some money on display cards. The form in which they are printed is most important, and the museum must realize that all advertising is governed by psychological laws and that a design for street-car cards that would be very appropriate and delightful if it could be examined at close range is often totally illegible or unattractive when seen from the sidewalk or even from the length of the street car. Brilliant color can be artistic and it has carrying power. The legend must be short and to the point.

Some museums have discovered that they can reach the newcomer in their city by means of small advertisements placed in the railroad stations and hotels, and although both hotels and railroad stations are loath to break their rules against the display of such cards, they can sometimes be induced to place a small and well-designed sign of this sort where it will do a great deal of good. In a city where there are several museums, cooperation between them often secures opportunities of this kind which would not otherwise be available. Almost every city now has an active organization interested especially in the development of its resources; sometimes a chamber of commerce sometimes a private association or club like the Minneapolis Civic

and Commerce Association. Through this agency cards can be distributed, giving the hours that the museum is open, price of admission, and a summary of the collections, as well as indicating the main lines of approach. Free publicity is given by the prominent newspapers, either in their news or art columns, to announcements of lectures, special exhibitions, new accessions, or items of general news. Some museums regard this as of such importance that they have a special publicity manager on their staff. Others attempt to handle the giving out of news through the separate departments.

Almost all of our larger museums spend a certain amount of money in advertising of one kind or another. The most scholarly form which this takes is, of course, the museum bulletin, but this organ is read by a very small number of the people to whom it is sent. Unfortunately, few bulletins are edited in such a way as to arouse one's interest. The ordinary reader does not care for the scientific article published in the usual museum bulletin, and, consequently, glances at the pictures and at the list of accessions and files the little magazine either on the shelf or in a waste basket. We are trying more and more to make the collections in our museums tell their story and interest the public, and very soon we shall find that the bulletins also will be written with this special object in view and they will no longer be thrown away. In this respect the museum is in the same position as the commercial house publishing its "house organ," and some of the methods adopted in the clever little magazines produced by some of these firms might well serve to assist the museum to perform its mission of education through its bulletin. Most museums allow a very small budget for publications, and an artistic "house organ" is expensive but worth while. Many of the museums and art societies are sending out post card notices to their members, giving a list of exhibitions and lectures, and these may be made very valuable; but a cleverly worded and well-designed paid advertisement in the newspapers would be still more efficacious.

Certain of our museums are undertaking advertising of a different form by conducting campaigns for civic betterment with headquarters at the museum. This is a perfectly legitimate form of advertising and brings a museum into close relation with the people of the city. Many museum officials who are imbued with traditions of scholarly aloofness look askance at such movements as city-beautiful campaigns and bird campaigns. These may not be directly connected with an art museum, but they are directly connected with the interests

of the city, and what is more logical than that the museum should be the center from which radiates civic improvement? We are living in a different age from that of our fathers, and it is only right that the museum should make use of the different agencies open to us in this generation.

And speaking of modern agencies for advertising, the Anti-Tuberculosis League is making use of the motion picture houses for purposes of publicity, and cards reading "Swat the Fly" are run in many of these theaters. Why should it not be possible for the chamber of commerce or the art museum to acquire a series of films representing the advantages of life in the city in which the museum is located, and including a visit to the art museum? These could be loaned to the different motion picture houses both in the city and in the surrounding country. They should be accompanied, of course, by appropriate signs. In this connection, a rough table showing the percentage of art museum visitors to the population in seven cities may be of interest. The population is figured in all cases from the census of 1910, the attendance figures are in some cases for 1915, and in some cases for 1914, according to the data available.

Toledo, 68%	St. Louis, 24%
Chicago, 40%	Minneapolis, 19%
Boston, 32%	Indianapolis, 15%
New York, 14%	

It is interesting to note in this connection that Toledo does more advertising than any other of these museums, and the result is obvious. There is hardly a street urchin in the city who does not know and love the museum. Whatever our prejudices in favor of the dignity of a museum, we are all trying to bring cultural influences into the lives of the people, and in order to do this we must have some way of increasing our attendance. Advertising is the modern medium, and if we are to be up to date we must extend our advertising.

Several members stated that they had experienced difficulty in having museum cards and advertising notices displayed in hotels and railroad stations. Mr. Harold H. Brown stated that this subject had received special consideration at the John Herron Art Institute in Indianapolis and, although their cards were very carefully designed, the Chamber of Commerce declined to approve their being shown in

any of the shop windows or hotels, this action being due to a general sentiment adverse to this practice in other lines of work.

Prof. Homer R. Dill reported that he had observed in the museum of the State University of Iowa a large number of patients from a neighboring hospital. Upon inquiry he found that they were in the habit of coming to the museum while waiting for dispensary appointments. The superintendent of the hospital finally posted a notice calling the attention of patients to the University Museum, thus helping materially to advertise the institution.

Dr. A. R. Crook, curator of the Illinois State Museum, reported that he had been able to have framed notices of the museum displayed in the railroad stations, the inter-urban cars, and the hotels. During Fair Week he had been able to use large banners carrying the words "State Museum Free" and these had increased the attendance at the museum very materially.

Mr. H. W. Kent described the cooperative poster advertising all the museums of New York City. These were very carefully and attractively prepared but, although supported by the influence of many prominent men, they were placed with the greatest difficulty and have since been covered to a considerable extent with other advertisements. Mr. Kent suggested that the museums were perhaps to blame for not changing the style of the posters from time to time.

Mr. Newton H. Carpenter, director pro tem of the Art Institute of Chicago, then presented the following paper:

HOW THE ART INSTITUTE OF CHICAGO HAS INCREASED ITS USEFULNESS

The love of art is inherent in everyone, no matter of what nationality or creed. The language of art is common to all people. One does not have to speak French in order to understand the work of a French artist. Art is the universal language.

Until comparatively recent years, the art treasures of this country were owned by the wealthy and were enjoyed by only a favored few. Then came museums with their object of giving the advantages of art to the people. It is gratifying to note the growing inclination of those possessed of valuable art treasures and art collections to present them to museums, where they can be enjoyed by the mass of the people. Practically all the collections of the Art Institute of Chicago have come to it by gift from citizens who believe that the

city that helped them make their money is the city to which it should be returned through some factor for its betterment, advancement, and beauty. Some have given collections, and later endowed them; others have given endowments from the income of which museum purchases can be made; while others have donated single objects of art. The installation of paintings, sculpture, and other art objects in museums is so much better than in private homes that our donors often remark that they had never really seen their collections until their installation in the Art Institute.

The first duty of a museum is to obtain objects of art and exhibit them to advantage. Its second duty is to do all it can to induce and encourage the people to visit the museum frequently and to help them derive the maximum benefit from it. The attendance in the Art Institute during 1915 reached a total of 879,384, and if the students in the school were counted once a day for each day of their attendance, it would add 139,841, making a grand total of 1,019,225. The museum second in attendance to the Art Institute is the Metropolitan Museum of Art in New York, whose attendance last year was 707,690. If our attendance can be attributed to the methods used in the management of the museum, an explanation of these methods may be of interest to those administering other museums.

A museum should be centrally located, where it is easily accessible to the public, and should be open at such hours as will best suit their convenience. Clubs, and the public in general, should be made to feel that they are always welcome.

The museum should provide special exhibitions, opened by receptions. Music and refreshments are valuable additions to these social functions, since they help create a pleasant atmosphere. A lecture hall is almost a necessity. Interesting lectures should be given on subjects allied with or illustrated by the collections in the museum.

Lectures, both educational and entertaining, are welcomed by the public and have a tendency to encourage the appreciation of art in the community. During the winter season several lectures are given weekly in Fullerton Hall. They are practically all on the various phases of art. Series of lectures are given on the different schools of art, the history of painting and sculpture, and similar subjects. The lectures are for members and our art students, and are always well attended.

Endowments, the income of which can be used for courses of lectures, are very desirable. At the Art Institute we have such an

endowment fund that gives us our annual Scammon lectures. Each year they present a comprehensive study of one subject, such as architecture, textiles, prints, etc. The material used in these lectures is later put into book form and published. The Scammon lecturers are men chosen because of their thorough knowledge of the specific subject. The theme is treated in a scholarly way, and yet it is a democratic audience that responds.

There is no more potent influence in the life of a city than that exerted by its various organizations or clubs. We have found their influence of great benefit.

At the Art Institute we have a club room that will seat about one hundred and seventy-five, a small committee room, and Fullerton Hall, the capacity of which is about five hundred. In these rather limited quarters about fifty clubs hold all their regular meetings. In connection with the Art Institute there is a dining room large enough to provide lunches or refreshments for these clubs, when desired.

The club rooms are of sufficient size for each club to enjoy its various club functions, while the galleries give them an excellent opportunity to exhibit their work. For the use of the club rooms, the Art Institute charges only enough to cover the expense of opening them.

A general idea of these clubs and the way in which they are cooperating with the Art Institute for the increase of its usefulness to the public will be of interest.

The Friends of American Art is a unique organization of about one hundred and sixty members, which was incorporated for the special purpose of buying works of art by American artists, a purpose which gives this association national importance. It has raised about thirty thousand dollars a year for the past five years, with which it has purchased and presented to the Art Institute sixty-seven paintings, five pieces of sculpture, and about forty prints. The successful work of the Friends of American Art has attracted much attention and several other cities have adopted its plan for similar organizations.

The Antiquarian Society of the Art Institute of Chicago is an organization of ladies, with a present membership of about four hundred and fifty, whose object is to purchase and present to our museum antiquities pertaining to the decorative arts. Since 1891 this organization has contributed an exceptionally valuable col-

lection of laces, textiles, furniture, etc., which has been installed in permanent galleries in the museum.

The Commission for the Encouragement of Local Art, established by the City of Chicago in 1914, was the first of its kind in America, although other cities have since followed the example of our city. The Commission holds all its meetings at the Art Institute. The city makes it an annual appropriation which is sufficient to purchase twenty or twenty-five paintings by artists of Chicago, for exhibition in schools and other public buildings in our city. Most of these purchases are made from the Chicago Artists' Exhibition.

The Chicago Society of Artists has a membership of about one hundred and fifty of our leading artists. They meet one evening a month at the Art Institute and help our museum materially by giving one of its best annual exhibitions, that of works by artists of Chicago and vicinity. The society has proved itself an exceptionally live organization and a big factor in the encouragement of local artists.

There are three architectural clubs meeting at the Art Institute: The Chicago Architectural Club, the Illinois Society of Architects, and the Illinois Chapter of the American Institute of Architects. These three clubs together with the Art Institute unite in giving the annual architectural exhibition, which now embraces all arts allied with architecture and has come to be a very interesting exhibition.

The other organizations giving annual exhibitions at our museum are: The Chicago Society of Etchers, The Art Students' League, The Chicago and the Atlan Ceramic Art associations, The Chicago Society of Miniature Painters, and The Western Society of Sculptors. Some of the members of these clubs contribute to the Annual Exhibition of the Applied Arts, although no one club gives this exhibition.

Every exhibition is opened by a reception, the club providing the reception committee. These receptions are open to all members of our museum as well as to the guests invited by members of the club. The Art Institute bears all expenses in connection with both exhibition and reception.

Aside from the exhibitions under the management of clubs, many "one-man exhibits" are given in the galleries, and occasional exhibitions are held under the management of other outside organizations, such as the Public School Art Society, local photographers' clubs and water-color societies. The numerous exhibitions cover the whole field of art.

There are a number of other clubs, interested in the fine arts, which meet at the Art Institute, but which do not give exhibitions. Among these we find such names as: Alliance Française, Archaeological Society, Art Students' Fellowship, Artists' Guild, Chicago Library Club, Chicago Principals' Club, Drama League, Friends of Our Native Landscape, Geographic Society, High School Teachers' Association, Public School Art Society, Society of American Musicians, Wild Flower Preservation Society. About thirty other clubs hold occasional meetings in our museum.

The Municipal Art League holds all its meetings at the Art Institute. The art committee of the Municipal Art League is composed of delegates from the art committees of sixty-eight important clubs in the city. A large part of their work is in connection with the Chicago Artists' Exhibition. They arrange each year for a series of one or two receptions a day, held in the galleries during the period of this exhibition. In addition to their other activities, they make an annual purchase of one or more pictures with which they are forming a Municipal Art Gallery.

Music is an excellent means of attracting visitors. During the past six years two orchestral concerts have been given in our lecture hall every Sunday afternoon; and for about three years, Sunday evening opera musicales have been given. The admission fee for these concerts is only ten cents for each afternoon concert and twenty cents for the evening one. The number of people who have attended these entertainments to date has exceeded 177,000. The admission fees have met the entire cost of these entertainments. These concerts undoubtedly have been the means of adding many visitors to the Art Institute. For the past three years our restaurant has been open Sundays from noon until eight o'clock, and several hundred are served every Sunday.

Reproductions of the interesting subjects in the permanent collections, in color or in black and white, of post-card size or larger, are an excellent advertisement for a museum and a legitimate means of profit to it. At the Art Institute they are in great demand, the sales averaging thirty thousand prints a month.

Four years ago classes were organized in the Art Institute for people desiring to study the history of art in its various manifestations, the class instruction to be illustrated by objects in the museum and photographs and slides shown in the classroom. A museum instructor was engaged; as the work increased later, an assistant was

secured; and since then, when required, extra instructors have been employed for special classes. Classes for adults, who comprise most of the regular attendants, meet weekly. A small fee is charged in order to make the work self-supporting and to insure more regular attendance. These classes are not spasmodic, but continue from year to year. Our instructors are often engaged for single museum talks or to conduct visitors through the Art Institute.

Here again our clubs enter into the life of the museum as our instructors assist in a large part of the activities of the art departments of several of these organizations, while many others come for one or more lessons.

The children's department is being handled efficiently: the boys and girls come in grades from the various public schools. During the past six months instruction has been given to an average of five hundred children monthly.

The receipts from tuition fees for the past four years have exceeded five thousand dollars, which have been sufficient to pay for the museum instructors and their assistants and to leave a small balance.

The teachers in the art department of the public schools are cooperating with the Art Institute in encouraging children to visit our museum. They give lectures in the assembly rooms of the public schools, illustrated by lantern slides, on the treasures in the Art Institute and advise the pupils to become familiar with the museum.

The State Museum Act, under which the Art Institute is incorporated, provides that our museum shall be open free three days a week, and that teachers and pupils of the public schools of Chicago shall be admitted free of charge. We also give free admissions to the teachers and pupils of all schools—not organized for pecuniary profit—in our county. Others receiving free tickets are Chicago artists, persons desiring the use of the library, and art instructors with their classes.

Efforts are now being made to extend the usefulness of our museum by advertising the pleasure obtained from the *beautiful*, that is, *art* in general. We believe that through education comes appreciation and love. Talks on art are to be given in the public schools, in the community centers, and in the playgrounds. They will be for both children and adults, although the former will be given the greater attention. Although this will not be done as a direct advertisement for the Art Institute, it cannot help but benefit the museum eventually by an increase in attendance and a higher appreciation of the museum's treasures.

One of the most effective ways to interest citizens in a museum and to identify them with it, is to incorporate them in its membership. This creates a feeling of ownership in the museum and materially helps to provide the necessary funds to maintain and enlarge it.

The Art Institute has two kinds of members: First, governing members who, like members of a church or club, actually own and control its property and affairs. A governing member pays one hundred dollars upon election and annual dues of twenty-five dollars; or upon payment of four hundred dollars he becomes a governing life member and is exempt from all future dues. This form of membership is limited to two hundred. At the present time there are one hundred and fifty-two governing members, fifty-four of whom are governing life members. All governing members are elected by the trustees upon the unanimous recommendation of the executive committee.

The second form of membership includes annual and life members. The annual members pay ten dollars a year, and the life members pay one hundred dollars and are exempt from annual dues. The annual and life members are given tickets which give them, their families, and non-resident visiting friends free admission to the museum, library, lectures, and receptions. The privileges of annual tickets are limited to one year; the life tickets continue during the life of the owner. There is no limit to the number of either the annual or life memberships, nor is this class of members elected.

The annual membership was established in 1883 with two hundred and seventy-three members. The number of annual members has steadily increased until it now exceeds five thousand. The receipts have also increased from \$2730 in the first year to \$47,080 in 1915. The total receipts from annual memberships during the past thirty-three years have amounted to \$633,560.

Life memberships were established in 1897. The number of life members secured each year has grown from thirty-three the first year, to three hundred and two in 1915, the receipts increasing in proportion. The life membership fees have been kept in a separate fund, which is held as a permanent endowment and now exceeds \$208,000. The receipts from annual members and the income from the life membership fund are used for operating expenses.

Any method of securing members that meets with success is the one to follow. Our first members were secured by the personal efforts of the officers and trustees; later, the memberships were obtained by

personal letters signed by the officers of the Art Institute. When this method did not produce the desired results, a paid solicitor was secured, at first on a commission, and later on a salary, this latter method proving the most satisfactory. During the year 1915 our solicitor secured twenty-seven hundred and fifty-four new annual members, who paid \$27,540, and three hundred and two new life members, who paid \$30,200, making a total of \$57,740.

The receipts from members for the year 1915 have amounted to \$88,716, and the total receipts since the memberships were established are \$1,034,194, itemized as follows:

	1915	<i>Total receipts to Dec. 31, 1915</i>
Governing members.....	\$ 400.00	\$ 41,500.00
Governing members, dues.....	2,700.00	112,904.00
Governing life members.....	800.00	22,200.00
Governing life interest.....	911.73	7,831.88
Annual dues.....	47,080.00	633,560.75
Life members.....	30,200.00	178,300.00
Life membership interest.....	6,624.31	37,897.46
	<u>\$88,716.04</u>	<u>\$1,034,194.09</u>

A large membership in a museum makes it possible to place the cost of its maintenance on the ones who are enjoying its privileges.

The trustees of a museum should exercise great care in the selection of their officers and employees in order that all may work in harmony toward serving the visitors to the museum courteously and in the most beneficial way.

It is our aim to make our museum as useful as possible to the public and to place no unnecessary hindrances in the way of its being enjoyed. We have no turnstile to pass through, but people walk in as they would in their own home. Children are not required to be accompanied by parents, but are encouraged to visit the museum alone or in groups. Canes and umbrellas may be carried through the galleries, or, if desired, checked free of charge.

We try to make the Art Institute appeal to all Chicagoans—not as a thing of curiosity only to be shown to out-of-town guests, but as a part of the daily life of the residents, a place for refreshing their aspirations and raising their ideals.

It is through this policy of democracy and service carried out in the many ways of which I have spoken that the Art Institute of Chicago has made its valuable collections useful to the public.

In response to questions Mr. Carpenter stated that the record of attendance was kept by the door man with a hand counter. He also stated that the average membership in the Art Institute is continued about six years. He described a special exhibit of fish in small aquaria, which increased the attendance of visitors in three weeks more than forty-three thousand over the corresponding period of the previous year.

Mr. John Cotton Dana, director of the Newark Museum Association, then presented the following paper:

INCREASING THE USEFULNESS OF MUSEUMS

It is easy for a museum to get objects; it is hard for a museum to get brains. The objects are seen, talked about, wondered at, bring praise to those who give them and prestige to those who choose them for purchase. The brains are not seen, are chiefly in the heads of mere hirelings, produce results slowly, and the results produced are seen only by those with a gift for education or with training and experience in it.

What is true of museum objects—rare, wonder-producing, and pride-evoking objects—is true also of museum buildings. It is easy to get them, much easier than to get museum brains. They are large, monumental, shiny, obtrusive, make impressive photographs, help to give cities plausible reasons for existence, furnish to donors a refined publicity for unselfish expenditures, and endow laborious trustees with a sense of duty done and with the immortality of a bronze inscription.

Probably no more useless public institution was ever devised than that popular ideal, the classical building of a museum of art, filled with rare and costly objects. And it adds to its inutility a certain power for harm. To its community it gives a specious promise of artistic regeneration, and it permits those who visit it to put on certain integuments of culture which, although they do not conceal esthetic nakedness, inhibit the free exercise of both intellect and sensibility.

What I mean is this: Museums, and especially art museums, are social conventions or community fashions. When a city puts on a museum it puts it on in obedience to the dictates of municipal fashion; it erects a museum building in accordance with current architectural fashion; and it places in the building objects selected after the fashions

of art museums. These municipal, architectural, and museum-object fashions are becoming out-of-date. Conformity to them is not useful, but is moderately harmful, giving conformists the notion that they are doing something which in fact they are not doing.

If, now, museums are to be of greater use to the world, here are the things that museum brains must fight against: fashionable museum buildings, fashionable museum collections, and fashionable treatment of collections.

In the kind of conflict here indicated—brains and ideas against the inborn tendency of good citizens to prefer the old way—the better manner of conducting the campaign is plainly that of a seeming retreat, accompanied by the construction of new and better things in the peace and quiet of the rear. Then, when the cohorts of the ancient, honorable, and ignorant finally penetrate the lines of the intelligent and reach the rearguard, they will find there, already constructed and in use, institutions so well adapted to obvious needs that they will adopt them at once, and call them their own creations and the very realizations of the ideals for which they so long have fought.

That which common sense dictates as the proper course for protagonists of the new museum is precisely the course which they are following. Here and there you find men and women, relatively few but in the total a goodly number, who are constructing institutions of a usefulness so great that they are paying in some cases fair returns on their cost, even though burdened with the handicap of being called museums. Mr. Rea's museum studies of recent years are most discouraging if you set down results in cold figures; but quite cheering if you read them with an eye to the future. Miss Connolly's study is more optimistic, of necessity so, being an effort at construction rather than a description of conditions. The recent annual reports of this Association can give even the most depressed of museum revolutionists much encouragement, for they prove that the one ever-present desire of museum workers is to discover and exploit new avenues of definite usefulness.

I shall try to suggest this rapid increase in the utility of museums by drawing, from latter-day writings, reports of those forms of museum activities in which progressive museum workers take the most pride, which are most approved by their associates, and which are plainly making museums in which they appear more widely and more definitely useful to their respective communities. These varied forms

of activity I shall unite in one imaginary museum, which, as I shall try to suggest, is so valuable an asset to its community as to make it seem that its title museum, already a misnomer, should be changed to "institute of visual instruction." In thus depicting, in rough and incomplete outline, an institution of an excellence and effectiveness as yet quite unattained, I must add to it certain features and put upon it certain peculiarities born of my own imagination. Only thus, it seems, can I give the vision a certain needed strength and fullness. In thus adding, to what I find in actual practice, possibilities that are mere ejections of myself, I shall, as I am well aware, give you a project of which no one of you will entirely approve. But, after all, you are not asking of me something to which you can all give assent; but something which may strengthen your faith in your own work and—though this is asking too much of a non-expert—something which may move you to pursue your present tasks with added zeal and to venture upon new lines with proper courage.

Those things which the new museum will not do, and the kind of institution which it distinctly will not be, must be indicated chiefly by exclusion. It is not needful to begin by saying that the ideal institute of visual instruction will not be thus and so. One negation, however, seems essential; it is, that the new museum is not a museum of a certain kind. It is not of fine art or applied art; nor of pedagogy or technology, nor of hygiene or religion. Carefully selected and laboriously identified, completely labeled, fitly installed, and safely housed collections of objects in all the fields mentioned, and in subdivisions of those fields and in many others not mentioned, are needed now, and have now and always will have their select, high, and usually narrow range of usefulness. But basic to all the project I shall briefly set before you is the statement that either these must no longer be called museums, but collections; or a new name must be discovered and adopted, such as I have roughly suggested in the phrase "institute of visual instruction," for those creations whose usefulness is wide, direct, obvious, and in fair degree measurable.

And that word measurable leads to one more remark prefatory.

All public institutions, and museums are no exceptions, should give returns for their cost and those returns should be in good degree positive, definite, visible, measurable. The goodness of a museum is not in direct ratio to the cost of its building and the upkeep thereof, nor to the rarity, auction-value, or money cost of its collections. A museum is good only in so far as it is of use. It is easy to evade the

importance of this obvious fact by airy talk of the uplift value of architectural façades in the classic manner, of priceless antiques, of paintings by masters, and of ancient porcelains, jades, and lacquers, to say nothing of replicas of whales, Indians, and mastodons. But the evasion does not serve. Common sense demands that a publicly supported institution do something for its supporters, and that some part at least of what it does be capable of clear description and down-right valuation.

The museum project I present is in one of our large, ugly, industrious, and rich American cities of mixed population.

Its museum is near the center of the daily movement of its citizens. The narrow and modestly decorated entrance fronts on a side street just off a main artery of travel. The building itself is sixteen stories high, with an area of about 10,000 square feet on each floor, giving a total of 160,000 above the basement. It is built in the ordinary modern, fireproof, brick-steel-and-concrete, loft-building manner, at 25 cents per cubic foot, and cost, with the land, complete with decorations, furniture, and cases, about one million dollars.

The main structure is a parallelogram, about 60 by 160 feet. The lighting problem is solved by electricity, though windows are abundant, especially in workrooms.

The entrance hall, a stairway of moderate grandeur, cloak rooms, toilets, shipping rooms, several small halls of wonders, and several lecture rooms occupy the first floors. The halls of wonders contain a few examples of the oil paintings, sculptures, and curios which every museum of art is supposed to possess, and a few of the habitat groups, large skeletons, and curiosities of nature which convention bids us look for in a museum of science. If these were not on view in a convenient place and near the entrance, they would be earnestly and persistently sought by visitors until they were found. By putting them near the entrance and by giving the entrance just a touch of grandeur, all visitors who have the conventional museum expectancy enjoy at once the agreeable reactions they look for, and are fit to proceed further with a quiet and receptive mind. Many of these objects, or others akin to them, are found again where needed to teach this, that, and the other lesson. The modesty of the entrance hall is compensated for in part by the presence in it of a panel of glass mosaic, very unusual, very expensive, very laboriously made, very old, very historical, and distinctly a museum piece. Always among the objects shown in these halls of wonders are some which are recent

acquisitions, some which cost a great deal of money, some which enjoy provenances of astounding length and of aristocratic flavor, and several which are the only ones in the world, or at least in this country.

The floors on which are found the other things to be mentioned need not be specified. For all of them there is abundant space. Many of them are moved from time to time, as the development of the museum's activity and as changes in museum method dictate.

I can tell what the building contains and what are the activities which center in it in the briefest manner only. To those familiar with museum work the items on the list which follows will almost automatically expand themselves.

Our projected institute contains the following:

1. A staff adequate for the work which the objects named and the activities suggested may require. The staff is larger, relatively to size of building and cost of collections, and more highly paid, than it is in any existing museum of equal floor-space.

2. Paintings, many of them, chiefly recent American, but with an abundance of copies of old masterpieces. A few are shown in the building; some are lent to schools; some are placed in windows of stores; some are in libraries and branch libraries; and some are in the museum's branches.

3. Sculptures, including many American bronzes and others of all countries and all times, the latter being in most cases inexpensive copies. Most of these are usually stored, or lent, or are on exhibition in other places. There is no grand sculpture hall of plaster casts; though there is at least one room in which the peculiar esthetic emotion to be experienced in the presence of a congruous group of marble sculpture is produced.

4. Prints, a large collection, but not necessarily an expensive one. Valuable prints are accepted as gifts, but few are purchased. No large permanent collection is always on view.

5. A collection of about a million pictures of paintings, sculptures, architecture, and, chiefly, of decorated objects of daily use. It is classified by objects, schools, periods, etc. These are used by students in the building and are lent freely for home, studio, school, and factory use. They form one of the most valuable assets of the whole institution.

6. Collections of metal and wood work, textiles, etc. Such of these as were purchased are largely copies. The acquisition, even by gift,

of originals which have a very high market value and involve great labor in handling and great care for preservation is not encouraged.

7. A selection, constantly changing through rejections and renewals, of things made in the city. Of some of these an important exhibit is held each year. These local industries displays are quite frankly commercial. They illustrate each year the best the city can produce in the line selected. They are accompanied by or preceded by or followed by exhibits of goods in the same line from other countries and from other periods.

8. Many objects illustrating such fundamental industries, whether followed in the city or not, as have greatly influenced the development of civilization: objects of clay and glass, textiles, leather, metal objects, jewelry, wood, and foods.

These objects are shown from three standpoints: the historic development of the industries involved in its relation to the development of the social conditions influencing and influenced by them; the processes by which such objects are made today, with the science and skill involved; the art qualities inhering in such objects, in both past and present times.

9. Habitat groups, usually rather small. Many of them are in miniature. They include birds, animals, insects, and men. A few selected ones are always on view, and well arranged to be shown to groups of school children. Many of the less important and less complicated groups, small and easily moved, are placed in museum branches in windows of stores, and in branch libraries and school houses as needed.

10. Science collections. These are made with special reference, first, to the science work in the schools, and next, to the interests of local groups of scientists. They are quite largely arranged as needed.

11. A library, for reference and lending use.

12. Lanterns, lantern-slides, stereomotorgraphs, moving picture films, all of a character appropriate to the museum's work, with moving picture machines and rooms in which all can be shown to small audiences.

13. A department of cooperation. The whole museum is in itself an institution for encouraging the use, not only of objects in its possession, but also of natural and man-made features of the city and its immediate surroundings. It is the habit of the city to turn simultaneously to library and museum when information is wanted. It is the custom of the museum to send to the parks of the neighbor-

hood some of its movable collections which illustrate the phenomena then and there visible. And the park managers send to the museum many specimens illustrating natural phenomena. All art, industry, and science schools use the museum and its collections just so far as falls short of interfering with their more democratic use by the city's laymen. And their first impulse, when producing or acquiring anything capable of use in visual instruction, is to duplicate it or share it with the museum. These correlations tend to prevent unnecessary duplication of collections. One department of the museum contains lists, pictures, and reproductions of notable art, science, and industrial features of the city, and visual information as to its political, religious, philanthropic, and civic institutions.

14. With this department goes another which gives its time chiefly to instructing teachers and others in the art of visual instruction, including the preparation of labels and of descriptive leaflets.

15. Workshops. These include the places in which museum work is done, from the receipt examination, recording, photographing, cleaning, etc., of some ancient, rare, beautiful, and costly gift like an early textile, to the making of a simple case to hold a few geological specimens for lending. The shops are not rooms, save for a few types of work, but spaces in one or more rooms to which the public has access. Separated from the workers only by railings, visitors can see the handwork that goes to the making of an active, teaching institution. Here boys and girls note how artisan, mechanic, or craftsman treat the museum's rare material and bring it into proper form for effective use in visual instruction. Child and man alike are somewhat moved to interest, appreciation, clear understanding, and development of their powers by reading of a thing or process; more by reading and at the same time seeing a picture of thing or process; still more again by seeing the actual thing or process and learning of it through the ear; still more by handling and hearing and asking questions and receiving replies; and most of all by trying, under skillful guidance, to produce the thing or to repeat the process.

16. Branches. One central museum can be of slight benefit to all the people of a large city, since not all can easily and quickly reach it, unless it extends its work in two ways: by lending objects, and by establishing branch museums.

The branches are nearly all little more than rooms, like stores, fronting on the street, at the street level, in the business parts of the city. One is in a building of its own. Others are in factories,

stores, schools, settlements, clubs, and churches. They are decorated and finished in accordance with the uses made of them. Every branch aims to be a complete teaching museum, and is, so far as possible, fitted to the character of its neighborhood, that is, to the degree of education and the occupations of its residents.

17. A school. This had been in active operation as a school for many years before the museum opened. As it grew slowly, and chiefly on its own initiative, it had adapted itself admirably to the demands of such young people of the community as wished to work in the field of applied art, or who, being already engaged in offices and shops, wished to improve themselves by definite and formal instruction. It is now open both day and evening and follows, as income permits, the development of the best schools of fine and applied art in the country.

The museum teaches daily in its main building and its branches and wherever the objects it lends may go. The influence it has on a community is difficult to measure. We can put our fingers on results no more than we can say of a drop of water in the Gulf of Mexico that it is the result of a shower in South Dakota. Emotions sink into the soul; actions seep out at other levels of time and circumstances. All we can do is to plant and water; somebody else will sit in the shade.

It will be said that it is impossible for a museum in any city to secure funds for the purchase of efficient brains with which to carry out a program that even approximates the one here roughly outlined. But large museum incomes are spent today in the acquisition of expensive treasures, to which a few point with pride, on which a few gaze with that improper self-satisfaction which is bought at the cost of museum fatigue.

This paper is based on the belief that the conditions which led to these expenditures are past; and that the primary duty of those same institutions is to justify their existence by becoming effective agencies in the intellectual, esthetic, industrial, and moral progress of their respective communities. If they do not do this they should resign themselves to the acceptance for all time of the fact that they are mere museums. Then, in their respective communities, should arise new institutions, fitted to satisfy the needs of these days—institutes of visual instruction.

Chairman Gilman.—"I feel like giving the united thanks of the audience for all the papers that have been read. Each has had its special message, and Mr. Dana's paper is certainly a most admirable climax to a very interesting evening.

"What is a museum man? He is an apostle of the object. We are all apostles of the object, and Mr. Dana has described the future possibilities with regard to what apostles of the object might do. He has called his vision an institute of visual instruction. Yet it is only what has previously been called object teaching. It seems to me, however, that with the institute of visual instruction in the future there must still remain the possibly somewhat less active institution which we call a museum. How then should we describe a museum? I think it might be described as the attic of the community. Every well regulated family ought to have an attic where things are kept, sometimes for curiosity, sometimes because they are charming old things too valuable to throw away, yet entirely gone out of use. We put these in the attic. I think the human race will always have to have attics and these attics are museums. There is no doubt but that we also have to have institutes of visual instruction. I do not know whether they will be separate institutions, but I am impressed with the immense reach of the possibilities of object teaching and the great reform which I believe our successors will one day see in the methods of education. The immensity of the change which will come about as the result of object teaching, such as we have had described to us during the past two days, is perfectly wonderful."

President Farrington.—"Mr. Dana has objected because museums pay high market prices. They do this, not because they want to, but because they have to. The high market price simply means that there is great demand for the object, that it is something the human race wants. I hope museums will not be abused unjustly because they pay high prices for what the people want.

"Mr. Dana calls his museum an institute of visual instruction, but if I understood him correctly he urged instruction along many other lines, through hearing and feeling and various other forms of culture. The museum does all of these things, including visual instruction, so that the term museum seems to me a broader one."

The Chair then read a letter from the Secretary of the American Federation of Arts extending to the American Association of Museums

a cordial invitation to participate in the seventh annual convention of the Federation on May 17, 18, and 19.

The evening session then adjourned.

SESSION OF WEDNESDAY, MAY 17

Morning

The morning session was called to order by President Farrington.

Dr. James E. Talmage, director of the Deseret Museum, Salt Lake City, presented a report of his attendance as a delegate from the Association at the Second Pan-American Scientific Congress in Washington, December 27, 1915 to January 8, 1916.

Mr. Louis Earle Rowe, director of the Rhode Island School of Design, presented the following paper:

THE MacLEAN MUSEUM CASE

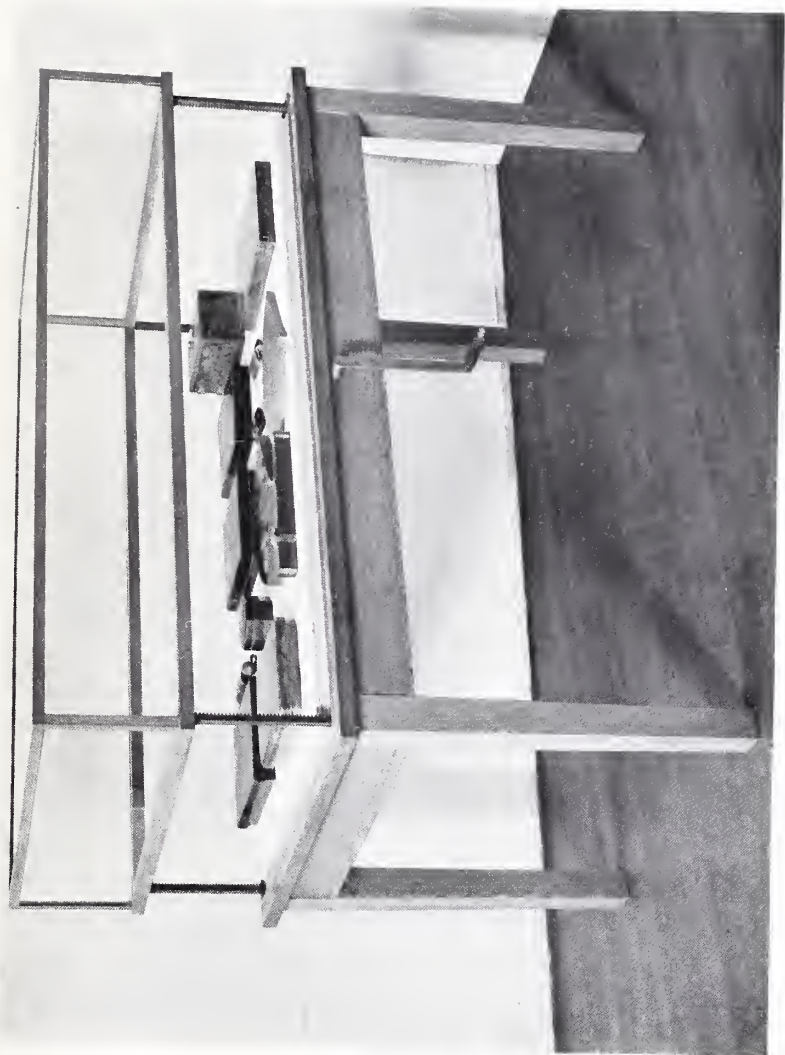
It is said that "Charles Dudley Warner once remarked that until he saw the Annapolis at low tide, he never realized how much it added to the looks of a river to have water in it." I think that many of us in museum work hardly realize how important the matter of cases in a museum really is, until we begin careful studies of what has been done elsewhere, and duly note the successes and failures. But in justice it might be stated that there is usually but little opportunity to arrive at satisfactory conclusions, for frequently our managing boards of trustees impose on us a heritage of cases which makes us shiver, but which we are powerless to have replaced.

Still is not a little of the criticism against our cases perhaps to be laid at our own doors? Truly, as we look over the proceedings of the several museum associations, or search in the limited museum literature at present available, we see little evidence of systematic study of the problem, or a critical analysis of successes or failures in this important branch of museum installation. To be sure, general lines of theoretical value have been suggested, but we may well ask how often have we available serious material, showing careful study, such as Mr. B. I. Gilman's article in the *Scientific Monthly* on "Museum Fatigue." Whether we agree with the conclusions arrived at is not to the point, the fact remains that few of us have studied the problem of cases, in general and particular, with as much profit to ourselves and our fellow-workers as is possible.

The present brief paper is not to treat of the development of cases in general, and the degree of attention paid to practical requirements, for that is considered by another speaker. Rather is it our purpose to consider the results of a long series of experiments which have produced a type of museum case which merits our consideration. I refer to the type developed by Mr. W. W. MacLean of the Boston Museum of Fine Arts. The writer has had opportunity to see this case at many stages of its growth, and feels confident that no other case yet devised in America has been the subject of greater study on the part of its designer.

It is generally understood that a practical museum case should be designed primarily to show off its contents to the best advantage, to be dust-proof, burglar-proof, and easy of access for the museum authorities, and it should be so built that the height of the case does not cause unnecessary fatigue, that it is easy to clean, and that it will add to the distinction of the galleries. Other refinements include the color of wood used, the reduction to a minimum of the frame holding the glass, a consideration of the height of the case proper, and a selection of suitable pedestals and backgrounds. Many other points, both positive and negative, might also be mentioned as features of an ideal case. Moreover, the matter of expense is a serious one, for few institutions are in a position to ignore this figure. All of the points just mentioned were long considered in the creation of the MacLean case.

It will perhaps further our interest if we compare two other cases with the one under discussion, namely that at the Musée des Arts Decoratifs in Paris, and that at the Kaiser Friedrich Museum in Berlin. Each of these two represents the finest yet devised by either French or German museums. In the first place a general type for shape of leg and proportion of base was determined. Both use table, high floor, and wall types. The French case has metal frames about 20 inches wide, reddish-bronze in finish; the pedestal is of wood, with legs carved in *l'art nouveau* style and recessed under the case. Its height to the floor of the case is about $32\frac{1}{2}$ inches. In the table-case type the height to top of glass is about 39 inches. These cases have features which are open to criticism. They are not securely locked, are not dust-proof, and are usually top-heavy. Many are frequently small in exhibition area, with a decided tendency towards waste space. The shape of the legs is not restful,



MacLEAN TABLE CASE

and the case in general does not show off all classes of objects to advantage.

The Kaiser Friedrich case type is better, with very careful study of proportion and exhibition requirements. The cases are mostly of wood, fine-grained, well-made, and an ornament to the museum. Special cases are devised for particular objects without departure from the type scheme. Moreover, there is little or no waste space, they are well-locked, and are dust-proof.

The MacLean case will be discussed in three examples—table, high floor, and wall cases.

The wood used is frequently ash, pear, or French walnut, although "silver wood" makes a beautiful case. This is much to be preferred to rosewood and the others frequently seen, which are disturbing in grain. Moreover, light finish is preferred to black. In shape the pedestals are simple and plain in line, with legs sufficiently large to secure perfect rigidity. There is no carving to catch the dust or add unnecessary expense. The glass chosen is of the best type, white and not greenish in color, and is held in place by quarter-rounds.

Perhaps one of the most distinguishing features is the use of wood rather than metal for the frame holding the glass. It has been found possible to use a method of construction which admits of the reduction of the wood to a width of three-fourths of an inch. In this form the cases have not undergone the suggested warping, bending, or shrinking which exponents of the metal case have claimed. The frame has a tongue on the bottom which fits into a groove in the base, thus making the case dust-proof.

The method of access to the interior of the case is unique in America, its nearest comparison being with the German case designed by G. E. Pazaurek for the North Bohemian Museum of Art Industry. The MacLean case has hollow legs within which are bars of steel with teeth, known among machinists as "racks," the upper part ending in a pin which fits into the frame of the case. A worm-and-gear device, of most simple form, works the racks up and down when desired. This is controlled by a large handle working on a single key. By this device the entire top of the case may be lifted from its bed to a height in proportion to the length of the legs of the case. These alone determine the length of the "racks." A lock on the key-rod prevents the use of a handle except by museum authorities, and a similar protection makes it impossible to lift the top from the

pins on the racks. This arrangement is used on the table and high floor cases.

An interesting point of comparison is in the length and width of the cases. The floor case of the French type is 30 inches wide by $51\frac{1}{2}$ inches long, the MacLean case is 34 inches wide and 60 inches long. It has been found possible to make all this gain of exhibition area without loss of strength. In this way an economy is secured which is most advantageous.

The MacLean high floor case is $39\frac{1}{2}$ inches high from the floor of the base and otherwise has the same dimensions of length and width as the floor case. For this reason the MacLean type has a decided advantage over others, as the glass tops are interchangeable, if so desired.

The MacLean wall case has distinctive refinements of proportion and has a maximum of light and exhibition area. Glass is used at the top in some examples, although this is not always an advantage as it catches dust. The locking device is different from that on the table and high floor cases, but is most effective. In this case the problem of height and depth has been very carefully worked out.

The Kaiser Friedrich cases are more nearly like the MacLean cases than any other, and both illustrate the advantage of thorough study and experiment.

Lastly, the MacLean case is an economical one, when the quality of material and workmanship is considered.

The designer of these cases feels that the type is open to many improvements, so that we may look for other experiments. Enough has been said, however, to present the care with which the type has been devised, and to suggest that any museum trustee or curator, whether in an institution of art or natural history, will find it decidedly to his advantage to consider the MacLean case.

Mr. Harold L. Madison, curator of the Park Museum, Providence, presented the following paper:

MUSEUM EXHIBITION CASES¹

Any discussion of museum exhibition cases involves the recognition of two clearly defined principles and the consideration of a third.

The first principle, maintained by such authorities as Gray, Huxley, Hooker, Wallace, Flower, and Goode, states that the purpose of museums is twofold: (1) to diffuse "instruction and rational amusement among the mass of the people, and (2) to afford the scientific student every possible means of examining and studying the specimens of which the museum consists."

The second principle, urged by A. B. Meyer and best stated by Carl Mobius, is in substance as follows: The magazine arrangement of museums, which is the result of historical causes, interferes with their best use, both by the public and by the student. The remedy is to divide the contents of museums into a main portion to be closely installed in rooms accessible only upon application (study collection), and a small collection of choice objects spaciouly installed in public galleries (show collections). The advantages of separate study and show collections are that the latter is a permanent guide to the best in the museum, and that the proposed division helps to preserve objects and is economical of space. The division is imperative in museums of art as well as of science. The interests of the mass of the public should determine the arrangement of museums and are subserved, without disadvantage to the student, by this division.²

The third principle declares (1) that a museum which displays relatively few objects in the most attractive manner should find it possible to make frequent changes in certain types of exhibits, and (2) that the exhibition problem may find its best solution in the employment in large museums of an exhibition staff whose duties shall be to cooperate with the scientific staff in presenting to the public the most interesting material in the several departments.

¹ In preparation of this paper circular letters requesting photographs of their exhibition cases were sent to forty-five museums in different parts of the United States and Canada. Replies and, whenever possible, photographs were received from twenty-seven natural history museums, eight art museums, and two historical museums. Nine of these are university museums. In addition, Prof. Edward S. Morse, Dr. Frederic A. Lucas, Mr. Benj. Ives Gilman, Mr. L. Earle Rowe, Mr. Henry L. Ward, Mr. Paul M. Rea, and Dr. Hermon C. Bumpus have given generously of their time and advice. To all of these I wish to express my thanks and appreciation for their courtesy and cooperation.

² See Bibliography, Mobius.

EXHIBITION CASES

The purpose of exhibition cases is twofold: (1) to protect exhibited objects from various external agencies that might remove, destroy, deface, or otherwise injure them, and (2) to present the objects to the visitor in such a manner as best to display their beauty, their individual peculiarities, their relationships with other objects, and their value to mankind.

Older museum cases are characterized by (1) storage-cabinet base, (2) storage-shelf top, (3) heavy frame members of wood, (4) ornate dust-catching design, (5) abnormal length, (6) extreme height, (7) low base, (8) horizontal sash bars, (9) hinged or sliding doors, (10) open construction permitting entrance of dust, insects, and thieves.

These cases are gradually being replaced on one hand by fireproof storage vaults, and on the other hand by real exhibition cases with (1) delicate frame members of wood or metal, (2) reduced length and height, (3) absence of storage space, (4) relatively higher bases, (5) simple easily cleaned design, (6) large plates of glass, (7) absence of horizontal sash bars, (8) removable knock-down sides or top or a solid upper section raised or lowered by a mechanical device, (9) construction that is dust-proof, insect-proof, and theft-proof.

Complete description of a case requires a statement of (1) position occupied by the glass through which the visitor views the object, i.e., vertical, horizontal, or nearly so; (2) location for which case is designed, i.e., wall or floor (free-standing); (3) character of base or lower section, i.e., solid, leg, glazed, cabinet, pedestal; (4) character of top or upper section, i.e., deep, shallow, screen; (5) material of which base or top is made, i.e., wood, steel, bronze, glass; (6) shelving, i.e., glass, wood, steel; (7) objects exhibited within the case.

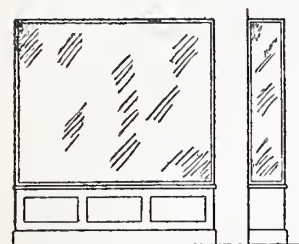
CLASSIFICATION OF CASES

Cases may be classified primarily as (1) vertical cases and screens for wall or floor, and (2) horizontal table and desk cases for wall or floor.

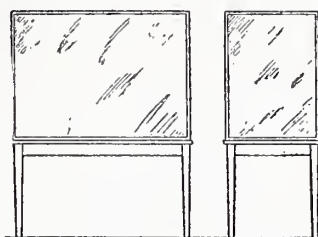
All cases have either solid, leg, glazed, cabinet or pedestal bases. Group cases are special forms of vertical wall and floor cases. The "A" case and the alcove case are special forms of vertical floor cases. Screens may be either fixed, sliding, or swinging.

Vertical cases. By vertical cases is meant any cases having the

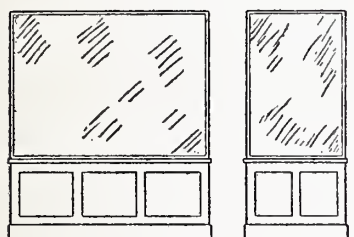
PLATE I.
VERTICAL CASES.



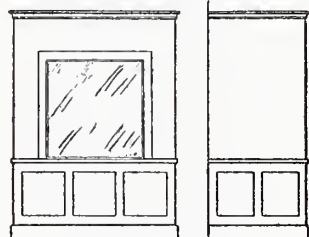
A.
WALL CASE, SOLID BASE.



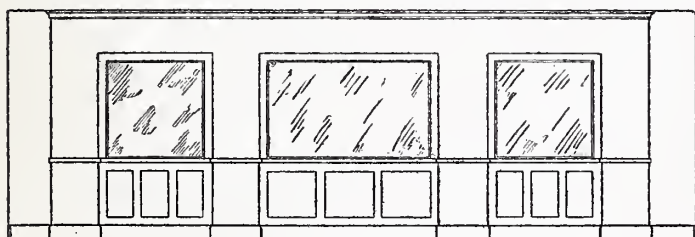
B.
FLOOR CASE LEG BASE.



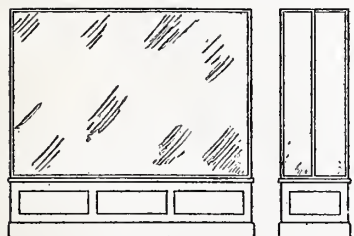
C
FLOOR CASE GROUP CASE SOLID BASE.



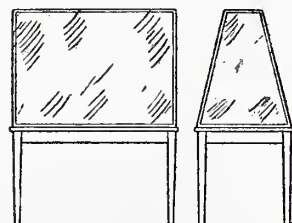
D.
GROUP CASE BOX TYPE.



E.
GROUP CASES BUILT-IN TYPE.



F.
ALCOVE CASE.



G.
'A' CASE LEG BASE.

glass through which the visitor views the object set vertically or nearly so (pl. I). The distinguishing features of vertical cases are: (1) Economy of floor space as in a wall or alcove case. (2) Visible display of objects from a distance. (3) Clean glass. The glass of vertical cases is touched relatively little and finger marks are not so easily seen on vertical surfaces. (4) Comfort for the visitor. (5) Well and evenly-lighted objects. (6) Relatively little storage space. (7) Exhibition of any kind of objects.

Horizontal cases. By horizontal cases is meant any cases having the glass through which the visitor views the object set horizontally or nearly so (pl. II, figs. A-F). This type is practically limited to desk and table varieties of different designs for wall or floor. Its early form has a solid storage-cabinet base. Its later form has a leg base. Its top or upper section is usually shallow. The angle of slant of the desk type is exceedingly variable. A wall desk 27 inches deep, having the back raised 12 inches and the front 4 inches from the top of the base is a good average. The tendency to use these cases in museums is steadily decreasing. The distinguishing features of horizontal cases are: (1) Occupation of excessive floor space. (2) Invisibility of objects from a distance. (3) Soiled glass. Horizontal glass is leaned upon and handled by almost every visitor and every finger mark is visible to the next visitor. (4) Discomfort for the visitor. Unless the case is very high and narrow, the visitor must bend the body to a fatiguing angle to see the exhibit. (5) Objects poorly lighted. Overhead light is the only usable light; objects cannot be thrown into relief and the visitor gets in his own light when bending over the case. (6) Adapted only for small or flat objects. (7) Large amount of storage space beneath.

Wall cases. The distinctive marks of a wall case are a front and a back. The latter is always opaque to be set against the wall of a room.

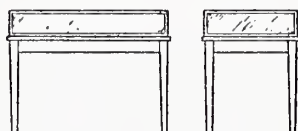
Floor cases. These are distinguished by having glass on all four sides and are meant to stand free on the floor.

Combination cases. A rather common type of case is the combination horizontal and vertical (pl. II, figs. G-J). The single form is used as a wall case, the double form as a floor case. It resembles the old-fashioned secretary with slanting desk top and vertical cupboards. The apparent physical discomfort which such a case produces on the visitor is sufficient argument against its increased use. It exists in its best form at the Milwaukee Museum as a floor case

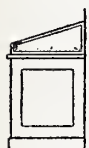
PLATE II.
HORIZONTAL CASES.
SCREENS, AND PEDESTALS.



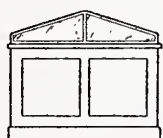
A.
TABLE CASE SOLID BASE.



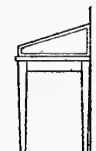
B.
TABLE CASE LEG BASE.



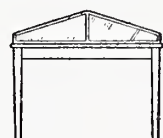
C.
DESK CASES
WALL TYPE.



D.
SOLID BASE.
FLOOR TYPE.



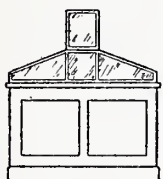
E.
DESK CASES
WALL TYPE.



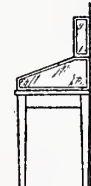
F.
LEG BASE.
FLOOR TYPE.



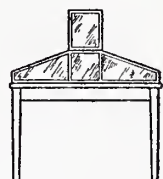
G.
COMBINATION CASES
WALL TYPE.



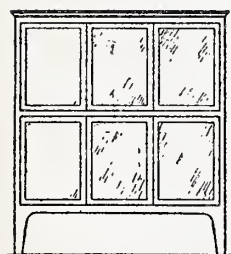
H.
SOLID BASE.
FLOOR TYPE.



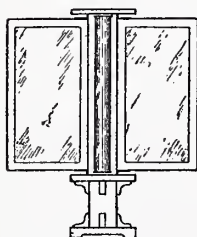
I.
COMBINATION CASES
WALL TYPE.



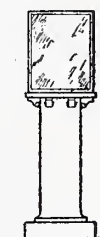
J.
LEG BASE.
FLOOR TYPE.



K.
SLIDING SCREEN.



L.
SWINGING SCREEN.



M.
PEDESTAL.

with flat-leg base, and at the Peabody Museum in Salem as a floor case with leg base. Here it is 36 inches high to top of glass at cornice. Shallow desks on either side are 18 inches wide. The vertical center is 6 inches wide and 24 inches high, with opaque partition and no shelves.

Alcove cases (pl. I, fig. F). Perhaps no exhibition case will live longer than that known as the alcove case. Its position with one end against the wall between low-cut windows is familiar to everyone. Its use is almost necessary where there is low side lighting. In its oldest form it has glass on all four sides, low base, high frame, and a central longitudinal partition. Its use results in a room difficult to police and not at all pleasing to the eye.

"A" cases (pl. I, fig. G). This type of case is constructed to lessen reflections, to reduce waste space, and to enable the visitor to get nearer the objects. It makes the visitor lean forward, however, gives him a sensation of tipping, and is therefore neither physically nor mentally comfortable.

Screens (pl. II, figs. K, L). Screens are best adapted to walls and pillars. Floor screens require the use of legs set at right angles to the screen and in general use are not satisfactory. Some museums make use of swinging screens arranged like the leaves of a book set on end. Their most serious defect is that two or more persons cannot comfortably use them at the same time. While the same objection may be offered to sliding screens, they are really much more usable. Screens are desirable devices for exhibiting in a shallow space such objects as textiles and photographs. The best type of screen in use is at the Museum of Fine Arts in Boston.

Group cases (pl. I, figs. C-E). Habitat groups are exhibited in special floor cases where they may be viewed from all sides, or in built-in cases, or in box cases with glass fronts and painted panoramas on concave backgrounds. The flat tops are usually of glass through which natural or artificial light passes. An improved form of background is obtained by using a groundwork of fine-mesh wire shaped to resemble the dome of the sky to the horizon line. On its concave surface plaster of paris is smoothly spread and when dry offers an ideal surface to the artist for his picture.

While a small museum cannot indulge in large group cases, it can afford group cases about 3 by 5 by 7 feet in which inexpensive habitat groups may be exhibited with simple pleasing backgrounds.

To avoid reflection, the American Museum of Natural History has

found it advisable to have the front glass slant inward at the bottom about 1 inch for every foot in height. There is a lack of agreement as to the height of the bottom edge of the glass from the floor. The maximum yet used is 36 inches, while in some instances the glass reaches to the floor. A good rule is to have the center of the glass in line with the important object of the group, with at least a foot of frame between the edges of the glass and the sides of the case.

CASE DETAILS

Bases. Bases are of five kinds: glazed, solid, leg, cabinet, or pedestal.

The glazed base, characteristic of the Kensington case, has almost disappeared. An exceptional and effective use of it may be seen at the Field Museum in Chicago.

The solid base should always be used on large floor cases that demand a low base (pl. I, fig. C). A high solid base on a floor case (pl. II, figs. A, D, H) is undesirable, not only because it makes policing more difficult, but because it detracts from the appearance of the room. Apparently there is a height below which a solid base should always be specified. In general, this occurs when the relation of the base to the total height is about 1 to 3. For shallow wall cases a solid base is always preferred (pl. I, fig. A). It gives solidity to an otherwise top-heavy case, and eliminates the temptation to throw rubbish beneath.

The leg base has been used on vertical floor cases where the base is from 30 to 36 inches high (pl. I, fig. B), and on wall and floor cases of the table or desk types (pl. II, figs. B, E, F). Obviously the policing problem is much simplified by this design, and bases so constructed are less expensive than solid bases of the same height. There has been a tendency recently to construct a so-called sanitary base of short legs, similar to that used for office furniture, in the belief that it makes cleaning easier and prevents marring the base with shoes. Both premises are wrong, since an exhibition case cannot be moved about like office furniture, and since it requires more labor to brush beneath the case than to brush around it. On cases of the vertical type it gives an ugly short-legged appearance with high center of gravity. Legs should be used instead of a solid base when the height of the base is to the height of the top as much as 3 is to 4. Again, it is only against table, desk, or low vertical cases that visitors strike

their toes, and it is more economical to construct such cases with high legs than with solid bases with or without sanitary legs.

The cabinet base (same as solid base in pl. II, fig. A, but opening to afford storage space) has been used most frequently on exhibition cases. It is neither economical of exhibition floor space nor attractive in appearance. Need of space to store objects and lack of funds to build storage vaults have been strong influences in perpetuating this type of base. It is extravagant of the student's time and annoying to visitors.

The pedestal base (pl. II, fig. M) should be more generally used in natural history museums, not only to secure variety of display but to exhibit some particularly beautiful or rare object to the best advantage.

In general, bases should be of a simple design that will not collect dust.

Top or upper sections. Among the differences already noted between the older and newer types of exhibition cases, the most marked are those pertaining to the top or upper section.

What is known as Library Bureau standard clip construction first gave to museums a thoroughly satisfactory narrow frame member that is not only durable and rigid, but also dust-proof and insect-proof. The earliest case of this type was made in 1908. Its frame members were held together with screws. It was the result of frequent conferences between Messrs. H. R. Datz and D. E. Hunter of the Library Bureau and Mr. H. W. Kent of the Metropolitan Museum of Art. The clip now used to hold the frame members together was invented in 1909 by Dr. H. C. Bumpus of the American Museum of Natural History.

In the history of museum cases, this is the first real knock-down case that can be quickly stored or quickly moved. The fact that any side or end can be released instantly and removed from the rest of the case has made it possible to do away with the hinged door, which sagged if heavy, or which was in the way during installation, or whose outer edge had to be supported when open if it was in the front of a shallow case. This construction also replaces the sliding door, which was never satisfactory, and has made unnecessary such devices as the removable back and the partition on rollers. By the use of adhesive packing strips, working in conjunction with continuous crimped steel springs, the glass is set in a solid channel, thereby making a joint which is perfectly dust-proof and insect-proof without

the use of putty or cement. Its only limitation appears to be for large, hinged, single-sheet, plate-glass doors, but this same criticism may be made of wide wood or metal frames.

Recently there has been placed on the market a bronze-frame case, similar to that of the Library Bureau, but having as its special feature an invisible hook-and-eye construction which secures a smooth external edge uninterrupted by clips or locks. Its frame is slightly heavier, being 1 to $1\frac{1}{4}$ inches wide. It is made by the Snead Iron Works Company, Inc.

Another type of case, much more limited in its use than the types just described, is known in Europe as the Reichenberger case,³ invented by Dr. G. E. Pazaurek in 1898. In much improved form it is known in America as the MacLean case,⁴ invented independently by Mr. W. W. MacLean of the Museum of Fine Arts in Boston. It consists of a five-sided rigid glass box with narrow frame members of iron in the first instance and of $\frac{3}{4}$ -inch wood in the latter type. It is set on a solid or leg base. By a mechanical device the box may be raised or lowered and locked. It is probably the nearest approach to an air-tight case yet invented. It lacks the knock-down and storage features of the bronze case and is evidently limited to small sizes. It is very satisfactory on a leg base about 36 by 60 inches. When used for a shallow vertical case, difficulty is experienced in installing objects and in cleaning the inside of the glass.

Dimensions. Museum visitors soon become fatigued (1) because objects are placed too high above or too far below the level of the eyes, (2) because objects are placed too far from the eyes, and (3) because objects are placed in long monotonous rows.

During the past two years there has been a tendency to build low vertical floor cases about 4 feet 9 inches high over all. The advantages of such cases are that they are economical of glass, make an attractive room, and facilitate policing, but the height of this case cannot be too strongly condemned. It has annoying top frame-members which require the visitor to stand on toes to look through the top glass or to bend over to look through the side glass. This case might be improved by raising its low base, thereby bringing the top edge of the case above the level of the eyes. An all-wood base could then be substituted for the slate or marble, since visitors do not mar the bases of true vertical cases.

³ See Bibliography, Pazaurek.

⁴ For illustration see paper by L. E. Rowe, pp. 89-92.

The eyes of the average person are about 60 inches from the floor. The most comfortable optical distance is 12 inches, and the body may be bent forward 15 inches without discomfort. Painful fatigue soon results from leaning too far forward or assuming postures involving bending the knees, balancing on the toes, bending back from the hips, or craning the neck.

The following table of measurements is based on the observations, experiments, and opinions of a number of writers, and upon my own studies. Such cases are estimated as most desirable for at least 80 per cent of objects of art and 60 per cent of objects of science. The most variable dimension is that of depth, while of course all dimensions will vary from the shallow screen to the very large case for special objects.

CASE	CLASS OF VISITORS	HEIGHT OVER ALL	HEIGHT OF BASE	HEIGHT OF TOP	LENGTH	DEPTH
Horizontal.....	Adults	38-40	36	2-4	60-72	12-20
	Children	32-34	30	2-4	60	10-16
Vertical Wall.....	Adults	84	22	62	12-72	3-12
	Children	70	18	52	12-60	3-12
Vertical Floor.....	Adults	78-80	36	42-44	36-72	12-36
	Children	66	30	36	36-60	12-36

All measurements in inches.

The most satisfactory exhibition case, then, should not be over 84 inches high except for special objects. It should have a higher base than is now in common use. If a wall case, it should be as shallow as a single layer of objects will permit. It should be short to afford ease in handling, to break the monotony of a long case, and to permit variety in installation.⁵

Shelving. Certain objects, such as vases in an art museum, and strictly terrestrial animals in a natural history museum, should be placed on shelves or their equivalent.

The glass shelf has two serious defects. Being transparent, it affords no background for objects, and having such a smooth surface, slight jars of floor or building cause objects to slip from their position. In spite of extensive use of glass for shelves, many of the best authorities prefer wood.

⁵ See Bibliography, Gilman.

For the vertical floor case with high base, the built-up pyramid, which may be varied in design, offers surface for any desired background and presents an attractive exhibit to the visitor. Briefly, almost all objects are improved by a background and a side or top light which shall throw them into relief, and the question of shelves should be approached from this standpoint. I am coming to believe that almost everything may be exhibited in proper cases without shelves.

Finish. The exterior finish of exhibition cases should be governed by the best rules and usages of decorative art. People of refinement and culture go to infinite pains to secure an atmosphere of quiet beauty and good taste in their homes, while it too often happens that the authorities of a public museum make no effort to find out for themselves or have others find out for them what should be the color of walls, floors, shades, and cases.

Cases are essentially the furniture of the exhibition room and, while it is not possible to state what external finish is best in all instances, it is possible to furnish certain definite suggestions:

1. Brilliant, striking colors, such as red, orange, and yellow in large quantities should be avoided, since they tire quickly. They will usually be found in sufficient quantity in the objects to be displayed without adding them in the finish of the cases. Nature is always sparing of red, orange, and yellow.

2. Black is conspicuous, depressing, and hard to clean.

3. Quiet colors, such as grays, browns, blues, and purples should be utilized.

4. If the external finish makes the case unduly conspicuous, it should be changed.

5. If the discriminating visitor finds the room forbidding or otherwise uninviting the cause should be corrected.

6. The objects to be exhibited in a room may require either warm brilliant tones or a cold forbidding atmosphere to show them in their full significance.

From the above considerations it may be inferred that mahogany or antique oak should not be indulged in too freely. Birch, walnut, ash, maple, oak, gum, or pear may be used to advantage in their natural finish and are suitable to receive stains in grays, greens, and browns. Bronze lends itself particularly well to rich browns, while steel may be enameled in any color.

CASE MATERIALS

Glass. Almost every type of exhibition case requires glass. Unquestionably it should be plate glass. One may conceive a situation in which the use of double-thick window glass might be justifiable. The specifications for glass should read: "All glass shall be $\frac{1}{4}$ -inch American polished plate, selected glazing quality, white, free from bubbles, scratches, and other imperfections."

Wood and metal. The parts of a case other than the glass may be of wood or metal. One may be inclined to order wood-frame cases to save expense. There is considerable difference in price between all-metal (base and frame members) and all-wood cases. If the base is of wood and the frame members of metal, the difference in price may be negligible, with the advantage of securing a narrow-frame ($\frac{3}{4}$ to $1\frac{1}{4}$ inches) top section.

The relative advantages of wood and metal may be tabulated thus:

<i>Wood</i>	<i>Metal</i>
1. Inexpensive.	1. Expensive.
2. Not fire-resisting.	2. Fire-resisting.
3. Soft velvet finish.	3. Often metallic finish, but may be given finish indistinguishable from wood.
4. Heavy frame members (except in the MacLean case).	4. Delicate narrow frame members.
5. Usually made into a permanent unit; may be made as a knock-down case.	5. Ideal for knock-down cases; easily and quickly assembled and taken apart.

The metals most commonly used for case construction are bronze and steel. The bronze is composed of copper, zinc, and lead and is known commercially as "extruded brass." Steel is less expensive than bronze but is neither so rigid nor so durable. While its fusing point is higher, the temperature at which it will distort and buckle is lower. It is more susceptible to chemical action. It cannot be given a natural finish, but must be enameled, and if this is done in the proper manner the cost will be about as much as for bronze. For narrow frame members, therefore, bronze is to be preferred. For bases, steel may be substituted for wood if desired.

While solid bases are injured by shoes on horizontal cases only, protection from the mop, in the form of a narrow slate base strip, is inexpensive and desirable for all solid bases.

Hardware. Small cases do not need casters, but large heavy cases should have them. Leveling devices may be obtained if desired but may be considered a needless expense.

Cases may be constructed so as not to require hinges. If hinges are used, they should be put on so that it is impossible to remove them when the door is closed. They should be close enough together to give ample strength.

For cases which are to be proof against dust, insect, and theft, locks which bolt in the middle and at the top and bottom should be used.

Fireproofing. No building material is absolutely proof against a devastating fire, but some materials are more fire-resisting than others. Fire is more likely to start or to travel on wood than on metal or glass. It follows that when protection from fire is an item to be considered in selecting exhibition cases, materials should be chosen which an incipient fire will not ignite.

ARRANGEMENT OF CASES

The arrangement of cases in an exhibition hall is important. There may be, and often is, an artistic or architectural reason for some particular arrangement. Barring this factor, the placing of cases should be based on the direction and source of light and on ease and efficiency in policing the hall. In some museums there is an attendant for each room; in others a single individual may police several rooms. Any arrangement that gives the attendant immediate and full view of every part of the room is obviously advisable. Wherever possible, therefore, alcoves, hiding-places, and floor cases with solid bases or solid backs should be avoided. Side or top light which will throw objects into relief is always to be desired, hence cases should be placed with this factor always in mind.

Old-style cases. Most museums are over-supplied with heirloom exhibition cases, more correctly called storage cases. It is not within the autocracy of the most ambitious director to discard such cases, but many may be remodeled or fitted with false backs and false bases and refinished to serve until other cases can be purchased.

Other considerations. Among other factors which should determine the style, material, and finish of cases the following may be mentioned: (1) The funds available for purchase of cases. (2) The policy of the museum authorities—some prefer to wait until the best

may be had, while others require that much be done at once with the funds at hand. (3) The external and internal architecture of the building. A small museum gains in apparent size by installing small cases and small groups. A museum whose building was a colonial mansion should be furnished with cases in harmony with colonial architecture. It should be possible to do this without sacrificing other desirable qualities. (4) The class of people to use the museum, whether children or adults.

SPECIFICATIONS

Only very large museums can afford to build their own cases. Other museums must order from case manufacturers. If the order is to amount to any considerable sum, specifications open for competitive bidding will secure the best cases for the least money. Manufacturers should not be allowed to write the specifications, though their advice and assistance often may be helpful.

The specifications recently issued by the City of Providence for the Park Museum were prepared by the curator of the museum in conjunction with an engineer of the department of public buildings who had a thorough knowledge of specification writing. Representatives of different case manufacturers were consulted and the final draft was made only after the law department of the city had made necessary legal changes. The following important provisions were included in addition to the usual requirements:

1. Sample of material and finish to be submitted and approved before work is begun.
2. Bids to be received only from bona fide manufacturers of cases, and persons not manufacturing to give name of manufacturer they represent.
3. Careful detail as to how wood or metal shall be prepared, cut, and finished.
4. Standardizing of at least two methods of construction.
5. Inspection and guarantee.

The most advanced thinkers in both art and natural history museums admit that we have not arrived at an ideal exhibition case and, in the Darwinian nature of things, it is highly probable that we never shall.

CONCLUSIONS

1. A museum exhibition case should not in any sense be a storage case.
2. All exhibition cases should be of the vertical type.
3. Bases of exhibition cases should be higher than is the general practice at present.
4. Except for special purposes, wall exhibition cases should be shallow (not over 12 inches deep).
5. All exhibition cases should be at least 6 feet high (7 feet is usually better).
6. Glass should be set in narrow metal or narrow wood frames.
7. Except for special exhibits, no case should be over 6 feet long.
8. In the long run, it is unwise to sacrifice quality for quantity in exhibition cases.
9. So far as practical, shelves should not be used.
10. Danger from fire is too insignificant to be given serious consideration.
11. The external finish of cases should be in the quieter colors—browns and grays.
12. No one ought to decide on types of museum cases without studying those at present installed in such museums as the Museum of Fine Arts in Boston, the Metropolitan Museum of Art, and the American Museum of Natural History in New York City, the Art Institute of Chicago, and the United States National Museum.

BIBLIOGRAPHY

Abbreviations:

- A=*Proceedings American Association of Museums.*
B=*Abhandlung Berlin Museum, Dresden.*
F=*Museum of Fine Arts, Boston. Communications to the Trustees.*
M=*Museums Journal of Great Britain.*
P=*Proceedings Museums Association of Great Britain.*
S=*Smithsonian Institution Annual Reports.*

- BAKER, F. C. (1) Some Instructive Methods of Bird Installation. A, I, 1907, 52-60, pl.
(2) Exhibition Cases Without Shelves. A, III, 1909, 128-130, pls.
- BATHER, F. A. Interchangeability in Cases. M, VI, 1906, 330, pls.
- BLACKMAN, E. E. Some New Points in Coin Case Construction. A, III, 1909, 134-138.
- BOLTON, H. Reshelving of Cases. M, III, 1903, 6.
- BUMPUS, H. C. A Contribution to the Discussion on Cases. M, VI, 1906, 297.

- CLARKE, J. M. *Tenth Ann. Rep. N. Y. State Mus.*, 1914.
- COMPARETTE, T. L. Installation of a Collection of Historical Coins. **A**, I, 1907, 123-131.
- COOMBE, A. A Dust-proof Air-inlet for Cases. **M**, II, 1902, 136.
- DEDEKAU, H. The Arrangement of Museums. Translation. **F** II, 1904, 49.
- DE FOREST, R. W. Proper Installation. **A**, VI, 1912, 40-41.
- EARLL, R. E. Review of Smithsonian Exhibit at Cincinnati, Ohio, in 1888. **S**, 1889, 162-173, 4 pls.
- FARRINGTON, O. C. Principles of Case Design. **A**, II, 1908, 110-119, pls.
- FLOWER, SIR WILLIAM. *Essays on Museums*. Macmillan, 1898.
- FORD, S. J. A Rotary Cabinet for Museum Specimens. **M**, VI, 1906, 304, pls.
- FRENCH, W. M. R. Installation in Swinging Frames. **A**, I, 1907, 62-68, pls.
- GILL, E. L. A Simple Method of Exhibiting Coral. **M**, X, 1910, 106-111, pl. IX.
- GILMAN, B. I. Museum Fatigue. *Sci. Mo.*, II, Jan., 1916, 62-75, pls.
- GOODE, G. B. (1) Recent Advances in Museum Method. **S**, 1893, 21-192, pls. 1-59.
 (2) Museum History and Museums of History. **S**, 1897, pt. 2, 63-83.
 (3) The Principles of Museum Administration. **S**, 1897, pt. 2, 193-241.
 (4) The Museums of the Future. **S**, 1897, pt. 2, 241-263.
- GREENMAN, M. J. Laboratory and Museum Shelving. **A**, VI, 1912, 85-88, pls.
- GUERET, E. N. Exhibition Cases without Shelves. **A**, IV, 1910, 16-18, pls.
- HOWARTH, E. Museum Cases and Museum Visitors. **P**, 1890, 88.
- HUXLEY, T. H. Suggestions for a Proposed Natural History Museum in Manchester, May 25, 1868. **P**, 1896. Reprinted in *Notes fr. Manch. Mus. I*.
- JUKES-BROWN, A. J. A Design for the Tops of Table Cases. **M**, II, 1902, 227.
- LEHMANN, O. A New Type of Iron Case, Altona Museum. **M**, VI, 1906, 308.
- LUCAS, F. A. The Structure and Arrangement of Cases. **M**, VI, 1906, 269.
- MERRILL, G. P. Diagram Showing Arrangement of Cases in Department of Geology, June 30, 1892. **S**, 1892, 217.
- MEYER, A. B. (1) A Description of Museum Cases of Glass and Iron. **P**, 1891, 112, pl.
 (2) *Mitteilungen Museum Dresden*. III, 1873, 281-286, pls.
 (3) Studies of Museums and Kindred Institutions. **S**, 1903, 380-384, 421-427, 524, 525, 528, 533, 535, 543.
 (4) The Structure, Position, and Illumination of Cases. **M**, VI, 1906, 231, 402.
 (5) **B**, I, 1887, 1, 14 pp., 6 pls.
 (6) **B**, IV, 1893, 1, 27 pp., 20 pls.
 (7) **B**, X, 1903, 5, 25 pp., 20 pls.
- MILLSPAUGH, C. F. Botanical Installation. **A**, IV, 1910, 52-58.
- MOBIUS, C. The Proper Arrangement of Large Museums. 1891. Translation. **F**, II, 1904, 45.
- MORSE, E. S. (1) If Public Libraries, Why Not Public Museums? **S**, 1893, 771-780.

- MORSE, E. S. (2) Exhibition Cases in European Museums. Read before Am. Assoc. Mus., May 25, 1911. Not published. (Gist of paper was that European exhibition cases and installations are inferior to those in America.) See P, V, 1911, 77.
- PAZAUREK, G. E. Einiges über Museumsschranke. *Museumskunde*, II, 1906, 71-84, 3 pls.
- PEARCEY, F. G. A Method for Utilizing Small Wall Areas for Spirit Preparations. *M*, VII, 1907, 125.
- RATHBUN, R. *Ann. Rep. U. S. Nat. Mus.*, 1911, 14-15.
- RATHGEN, M. K. Lufdichte Museumsschranke. *Museumskunde*, V, 1909, 97-102.
- RODGER, A. M. (1) Note on Insect Case. *P*, 1899, 50.
(2) Fittings of Cases in Perthshire Natural History Museum. *M*, VI, 1906, 306, pls.
- SMITH, H. I. Making Museums Useful. *Sci. Am. Supl.*, 79, May 29, 1915, no. 2056, 348, diags.
- SMITH, J. O. Notes on Museum Fittings. *M*, VI, 1906, 399, pls.
- TEAL, T. P. Dust in Museum Cases—How to Battle With It. *P*, 1892, 81.
- WAITE, E. R. The Colouring of Museum Cases. *P*, 1892, 71-74.
- WARD, H. L. The Exhibition of Large Groups. *A*, I, 1907, 68-77.
- WHITE, H. B. (1) A Description of Fittings and Appliances in Use in the Science and Art Museum, Dublin. *P*, 1894, 70, pls.
(2) Some Improvements in Cases. *M*, VI, 1906, 265, pls.
- WOODWARD, B. H. Museum Cases Western Australian Museums. *M*, VI, 1906, 307.
- WOOLNOUGH, F. and BENNETT, R. An Air-tight and Dust-proof Case with New Safety Fastenings. *M*, VIII, 1908, 369, pls.
- No Author. Interior of the Museum of Zoology in the Jardin des Plantes, Paris. *Am. Mus. Journ.*, I, 1900-1901, 103.
- No Author. *A*, V, 1911, 28-31.
- No Author. Materials and Colors for Case Frames and Linings. *A*, VII, 1913, 58-63.
- No Author. *Mitteilungen des Nordbohmischen Gewerbemuseums*, XVI, 1898, no. 2, 40.
- No Author. *F*, III, Jan. 1905, 87 pls.

In the discussion following Mr. Madison's paper mention was made of the difficulty of obtaining plate glass free from a slightly purplish or greenish color. Mr. Madison thought that this point could be adequately covered by specifications calling for selected glass of the best quality.

In discussing the use of steel in museums Mr. Henry W. Kent of the Metropolitan Museum of Art spoke of the experience of the New York State Library in the Capitol fire, when it was found that books in steel cases suffered more than books in wooden cases. Those

on steel shelves were reduced to ashes, while those on wooden shelves were often very slightly injured even when the ends of the shelves had burned. He stated that many librarians have come to the opinion that our ideas about steel cases need revision. Mr. Kent also expressed his hope that museum cases never would be standardized to such an extent that there would be no pleasing variation in different museums or in the parts of one museum.

Mr. Henry L. Ward of the Milwaukee Public Museum spoke of the good effect obtained in his institution in a colonial village scene, in which most of the exhibit is installed in the interior of the reproduction of a colonial house, thus doing away with the necessity of any case. He felt that this was an ideal solution of the problem but one that was not always possible. Mr. Ward also discussed a number of points in the construction of cases for large mammals. He reported very successful experience in hinging large plate glass sashes at the top, even when the glass measures as much as seven feet in height by nine or ten feet in width.

Both Mr. Ward and Prof. William C. Mills of the Ohio Archeological Society discussed the insecurity of the usual types of locks used on museum cases. Both have lost valuable specimens through the failure of these locks to work properly, or through weakness in their construction.

Mr. Roy W. Miner, assistant curator of Invertebrate Zoology in the American Museum of Natural History, then presented a paper on "Index Labels," in which he discussed the problems involved in labeling clearly and attractively such complicated exhibits as the invertebrate groups in the American Museum. His solution of the problem was to depend largely upon outline drawings of parts of the exhibit with lines radiating from the objects to the labels printed about the margin. Mr. Miner's paper was received with much interest.

Mr. Dwight Franklin then presented the following paper:

A RECENT DEVELOPMENT IN MUSEUM GROUPS

The miniature museum group is at present in its infancy. We cannot say what ultimate possibilities it contains or in what line it may be successfully used. So far it has been confined almost exclusively to the literal representation of some ethnological facts.

The miniature group is generally associated in our minds with



MEDIEVAL BANQUET HALL GROUP, PREPARED BY DWIGHT FRANKLIN FOR THE METROPOLITAN MUSEUM OF ART



GROUP OF BEDOUINS ON THE SAHARA, PREPARED BY DWIGHT FRANKLIN FOR THE CHILDRENS MUSEUM, BROOKLYN

the little models shown at exhibitions and health-crusade exhibits, which, while interesting, possess little if any artistic value and consequently are not fully effective. Or we think of the little groups of Indian villages, with figures two inches or so in height, which are really accessories to the dwellings. In these, the character of the country, the flora, and the climatic conditions are scarcely shown, and, since these factors are an important influence in the lives of the people, they should be portrayed just as the backgrounds of our bird groups picture the habitat.

During the last few years I have made a careful study of miniature groups in different parts of the country, as it offers a fascinating opportunity for experimenting along new lines. Three changes seem desirable:

First, to have the figures not smaller than six inches high. Most of the little figures are but two or three inches.

Second, to raise the figures to the level of the eye of the average person in order to give a more natural and intimate feeling. The importance of this point cannot, I feel, be overestimated. A step should be built in front of the group to allow little children to see from the same level as their elders, without having to be lifted up. This seems better than to use low cases where the grown-ups, if they wish to see the figures, must crawl around like quadrupeds.

Third, to view the group from one side and to use a background with artificial lighting. I should like to say right here, that we museum workers have much to learn in the way of effective lighting from the theatrical scenic artists, whose work is much more closely related to museum groups than may at first be realized. In fact, many of the scenes which so delight us at the play, might, with a few changes, be translated into charming museum groups. It is interesting to notice how the whole feeling of a group may be changed by throwing different colored lights on it and by increasing or decreasing the volume of light. A warm orange light thrown on a desert group, for example, gives a surprising feeling of heat, while a blue light on an arctic scene makes one quite chilly.

These qualities all tend to make a group more convincing. And why should we not stimulate the imagination and show an appreciation of the artistic possibilities presented by a subject? I am convinced that the public will learn more from groups presented in this way than in the more literal form. And it is, at times, perfectly legitimate to present the subject in a dramatic or even humorous manner, if, in so doing, you make your point clear.

Turning now to the possibilities of the miniature group, one finds an almost limitless range of subjects to which it seems admirably adapted. A few of these cases may be mentioned: Ethnology, of course; Archaeology (cave-men and cliff dwellers); Geography (much the same treatment as for ethnology); History (there are endless possibilities here); Paleontology and Geology (a group of Carboniferous vegetation with its fauna would appear like an enchanted forest, and Dinosaurs would make a weird group); Forestry (a series showing lumber camps, log jams, etc., would be most instructive); Zoology (showing the life history of large mammals). Industrial groups offer an almost unlimited field. Other subjects will readily suggest themselves and when the small amount of space occupied by miniature groups is considered, in contrast to life-sized ones, it will be seen that it is a solution of very many museum problems, particularly for institutions which are handicapped by lack of floor space. The necessary artificial lighting also makes them adaptable to dark corners.

I might add that the cases for groups with backgrounds are less expensive than those which are viewed from all sides, as only one sheet of glass is necessary.

The Association then took a recess of five minutes, after which Mr. William L. Fisher, assistant curator in the Philadelphia Museums, presented the following paper:

INSTALLATION OF INDUSTRIAL MATERIAL

In its very extensive educational work, the Philadelphia Commercial Museum has found exceedingly useful two different but supplementary kinds of exhibits. First, models, either life size or in miniature, showing industrial processes, and second, diagrammatic installations of industrial materials.

Both of these are very well illustrated in our Carbon Room, by the exhibits of petroleum and of coal.

We found it very difficult to make children realize the depth of an oil well. Therefore we built a miniature model, on the scale of one inch to fifty feet showing a part of the oil region near Pittsburgh, Pa., with several wells in sight.

The top of the model is a typical landscape, with farm and forest land, a small stream, and a railroad with a train of tank cars. The

oil derricks, which are less than an inch and a half high, are made of paper. Trees, houses, and fences are carefully built to scale, and the result is a very realistic bit of country.

The sides of the model show a geologic section of the earth to a depth of about twenty-five hundred feet. In this section the coal measures and the oil-bearing sands are correctly placed. The layers of sandstone and shale which intervene are partly diagrammatic. The wells are represented by fine black wires, laid in the bottoms of grooves cut into the sides of the model.

In another case, close beside this model, is a diagrammatic installation showing the distillation of petroleum. A large jar holds five gallons of Pennsylvania crude oil, and ribbons connect it with other jars containing the proper quantities of its principal distillates. In this way one can see at a glance that from twenty quarts of crude there are made four quarts of gasoline, five quarts of kerosene, one pound of paraffin wax, etc. Above and at one side of this diagram is a large installation of many commercial grades of petroleum products.

Another product that has been treated in the same manner is coal. The central portion of this exhibit consists of a model of a coal mine, copied rather freely from a mine of the Lehigh Coal and Navigation Company, at Coaldale, Pennsylvania.

This model is seven feet high, nine feet long, and about thirty inches wide. The scale used is one inch to ten feet.

The top of the model is a landscape, showing typical coal-mining country in the anthracite fields of northeastern Pennsylvania, with long ridges of hills separated by narrow trough-like valleys. On one of the hillsides is a little mining village. The houses for the miners diminish in size as the streets recede from the front of the model, thus giving a very realistic idea of perspective.

The background of the case is an oil painting which carries the picture back and gives the effect of a view over many miles of country.

Near the stream stands the coal breaker with a train of cars on the railroad track waiting for their loads. Nearby is the power house with its tall chimneys. From this central station power is delivered to work the elevator in the shaft, to regulate the air supply by means of the fans, and to furnish electricity for light and power.

There is an opening in the side of the hill where cars enter the mine on the upper level. Above it stand two fan houses of different types.

The vertical front of the model shows a geologic section with

five coal measures between layers of shale and sandstone. This illustrates very clearly the characteristic folding of the strata under the synclinal valley.

The mine shaft is shown in section on the front of the model. Two mine cars are on the cages and the baling tank for removing water from the mine occupies a separate section of the shaft.

The actual work of digging coal is shown in four different sections in the mine. It was necessary, in order to show the workings, to break out the rock arbitrarily and make large openings in the model, which do not exist in the actual mine. In these four openings are modeled the coal seams with different methods of opening and working breasts. The tunnels and gangways are only one inch in height, but in them are laid the tracks on which stand miniature mine cars, drawn by mules. The tiny figures of the miners were a difficult problem in model making, but it was successfully solved.

In another case, a small part of one breast in the mine is shown full size. Here a life-size figure of a miner is at work on real coal, with tools that actually have been used in a mine.

Like our other models, these form the center around which is grouped a collection of coal from many parts of the world, and a large diagrammatic installation of the products of soft coal distillation.

There has been no attempt to make the series of coal-tar products complete, but we try to show the most important things and to carry the story far enough to include common things. For instance the naphthaline is shown as moth balls, the analine dyes include some skeins of colored silk, and the phenol group contains a cake of a much-advertised carbolic soap. A striking part of this collection is a box of colored candy alongside the jars containing the seven dyes whose use is permitted by the pure food law.

In this manner, both small-scale and full-size models are used as an attraction to arrest the attention of the visitor and so to get him to look at, and perhaps study, the collections of relatively uninteresting things. Because of their sameness things like a collection of coal or of jars of oil, though having great teaching value, are not particularly attractive. In the diagrammatic exhibits the specimens are connected by ribbons bearing small white arrows, which show the different steps in the manufacture of commercial products so clearly that an intelligent visitor can understand without the services of a museum guide.



MODEL OF COAL MINE IN THE PHILADELPHIA MUSEUMS

Mr. Frederick L. Lewton, curator of the division of textiles in the United States National Museum, presented the following paper:

THE INSTALLATION OF TEXTILE FABRICS

The installation of textile fabrics in a museum offers many opportunities for the development of latent abilities in the average museum assistant. This class of material also presents problems not usually encountered in handling other kinds of exhibits.

The proper display of textile fabrics has been given a great deal of attention by the dry-goods trade and by certain trade journals, and new forms of display fixtures are often brought out by the manufacturers catering to the retail trade.

Right here may be asked the question: Where can be drawn the line between the display of goods in a store window and the installation of the same class of materials in a museum? The larger department stores regard the dressing of their windows as an important part of the business of selling merchandise and consider the window dresser as a valuable and necessary assistant. The task set before the window dresser is a much simpler one than that encountered by the museum worker in handling the same material. The one has to arrange a pleasing picture which may bring a prospective purchaser across the street and into the store. The window dresser is chiefly concerned with symmetry, form, and color harmony and can place his objects where he will in order to secure a balance or symmetry of the scheme as a whole. The museum worker, while of necessity observing all these points, must needs place his objects in a definite order or sequence even at the sacrifice of symmetry and color harmony. An exhibit may be considered as having been successfully installed when founded on the corner stones of systematic classification, logical sequence, balanced form or symmetry, and color harmony. The museum can show objects or materials illustrating the industrial arts in a manner distinctive from that used in mercantile establishments.

The plan of installation of a collection of textile fabrics would of necessity depend upon the general plan and scope of the museum undertaking the project. Not only the scheme of classification but the type of installation fixtures and general methods of display to be used would differ in a museum of art from those employed in an ethnological museum or one emphasizing the technological stand-

point of the industrial arts. In the art museum fabrics are displayed primarily for the designs used in their ornamentation and the specimens may be considered as carrying out a motif by means of interlacing threads instead of the employment of color media on paper, canvas, or wood.

The ethnological museum is concerned with textiles as showing the growth and development of a primitive craft among different races of men. Here, as in the case of the art museum, the design is of more importance than the weave structure or the use of the fabric after it has been completed and ornamented.

In planning and installing an exhibition of textiles, a museum of industrial arts would naturally concern itself with questions of structure and use before considering those having to do with the weaves of the fabrics or the designs or motifs used in ornamenting the specimens to be shown.

In a museum where the use of the articles to be displayed is of importance when considering their proper classification and arrangement, the type of installation which best brings out the qualities and purposes for which the article was made should be adopted. Where the design is to be emphasized, the method of installation used to display tapestries, brocades, satins, velvets, or ribbons may be one and the same. But where it is desired to bring out the best qualities of the fabrics and to suggest uses of the material exhibited, a different type of installation could very well be used for each one of the textiles just named, if they are to be shown to the best advantage. The tapestries and brocades would be hung flat against the wall, the satins puffed or hung in soft folds to reflect the light, the velvet hung in deep folds so as to display the shadows when looking directly into the pile, and the ribbons would naturally be shown in loops, bows, or waving lines. Veilings, nets, and gauzes show best when draped over background fabrics of some contrasting shade. The beauty of crepes, chiffons, and other soft clinging fabrics can be brought out by hanging in curved lines, while stiffer fabrics, like taffetas and satins, look better when fastened in broad radiating pleats. Curtains and draperies when shown as specimens in a museum should be hung the same way as such fabrics are hung when in regular use.

At the National Museum we have found the ordinary T-stand of wood or brass to be of great assistance in fabric installation. A stand with arms curving upward instead of forming a straight bar enables the fabric easily to be arranged in soft folds, while a short

pedestal with a square, bevel-edge top permits the showing of short lengths in an effective manner. The dimensions of these fixtures would depend, of course, upon the size and style of case used and the length of the fabric specimen chosen as the unit.

Dr. Walter Hough, curator of ethnology in the United States National Museum, presented the following paper:

INSTALLATION OF ETHNOLOGICAL MATERIAL

The Smithsonian Institution, founded seventy years ago, became almost unwittingly the progenitor of the National Museum. In connection with the work of the Institution, collections accrued from the surveys of the government, and from expeditions of the navy, army, and other branches of the service, bringing in more and more materials until the burden compelled the founding of a museum supported by appropriations of Congress. During the secretaryship of Prof. Spencer F. Baird successful results were attained through instructing members of exploring parties as to the needs of the museum and by furnishing means for the acquirement of material. This was very easy during the first period and has become increasingly difficult for a number of years. The leveling power of modern intercourse spares no tribe or nation and in a short period native arts become a tradition.

Coincident with the efforts of the museums to increase their stores were the labors of the private collector in like fields. To the private collector as a class all honor. In many instances his labor of love has saved the day, preserving specimens to the time of their inevitable repose in museums. Collection of one thing or another is an irresistible human instinct. A list of collectors' so-called fads makes interesting reading. The museums of today lean toward private collections that can now only supply their needs and they hope that these collections will finally become an offering, a tribute to public spirit. A notable instance of private scientific collecting is the work of Dr. W. L. Abbott, who, taking the East Indies as his field, has sent in to the museum more than seven thousand specimens of ethnology accurately identified, and perhaps as many more of biology.

Most museums that have a considerable history run true to form as to the accretion of material, but we realize that the results are

far from ideal. Collections are scattered, unscientifically made, and the whole is lopsided, entailing infinite labor to future workers. The ethnological collections of the National Museum as you know were compressed in various halls of the older building or packed away in storage till relief should come. When the new natural history building was completed and ethnology had its first opportunity to expand, it was a source of satisfaction to find that the gleanings of more than seventy years would illustrate the arts and industries of the typical tribes and areas of the world.

It was decided to display the collections geographically by ethnic units, but with open arrangement. As a preliminary, the collections were studied to determine sizes and other characters of specimens, and standard cases were built to accommodate the various classes. The number of cases was fixed by the architectural features of the halls and they were confined to as few varieties as possible in order to secure symmetry of arrangement. The cases were fitted with open shelves, diaphragms, and shelves on diaphragms, and before the window spaces cases were furnished with storage bases. The unit of exhibit comprises a family-group case showing the physical characters of the race, costume, domestic arts, etc.; a house group showing architecture, village industries, etc.; and cases exhibiting textiles, pottery, and other products of material culture. Single figures are also used as illustrations of races, and accompanying the exhibit are transparencies and other pictorial material, as well as large models of pueblos, etc. In some instances it has been possible to show world-range series, as baskets, and in the course of time other series may be developed. Cases containing synoptic series showing the development of invention form an attractive and educational section of the exhibit. A general descriptive label is placed in each case and each specimen is accompanied with a label of the briefest character giving the name, location, and collector. This is believed to be good practice, conserving the visitors' time and energy.

Your reader gladly sinks whatever he has done in presenting the national ethnological collections in the respect and admiration he has for the directive ability of Prof. W. H. Holmes, who among his many qualifications is a master of museum science. The anthropological exhibit of the museum seeks to attain the ideal of Holmes and of those associated with him and that is to tell the story, to tell it at once, and in the most attractive manner. It is believed that an exhibit is valuable as much for its omissions as for its inclusions.

The chief idea of an exhibit is not quantity but perspicuity. It must be attractive and present pictures to the mind. It fails if it is long and dull with too much impedimenta. The museum is a place of impressions. A museum is not a place for a studious grind but a temple of the Muses where knowledge may be acquired through a gratified application of the higher senses.

If the exhibit of ethnology in the National Museum attains its object of conveying clear impressions of the variety of human arts among the races of the world in their various environments it may be termed a success. How far it falls away from this striving it is your duty to make known in order that fellow-workers may profit by your counsel and experience.

Dr. A. R. Crook, curator of the Illinois State Museum, Springfield, presented the following paper:

SOME SUGGESTIONS FOR A FORESTRY EXHIBIT

The records of attendance of a dozen of our leading museums show about five million visitors annually. If only one million more visit the six hundred remaining museums the total of annual museum attendance amounts to at least six million.

On the other hand all our national parks and forest reserves together are not visited by much more than a million people annually. It therefore appears that museums could become effective bureaus of publicity for certain phases of the work which is being so skilfully done by the United States forestry service because six people visit the museums while one person visits the forests.

In our museum meetings as well as in other places attention has often been called to the necessity of educating the public to conserve natural resources. The forestry service is a pioneer and leading exponent of this work and museums can lend no inconsiderable aid in advancing the cause.

In speaking on this subject I do so not "with authority but as a scribe." My ideas may be tainted with geology. But since that science encompasses the earth and forests simply spread over the surface, we may really be getting down to rock bottom when speaking from the view point of a museum geologist. Further I note that an archeologist, Harlan I. Smith,¹ has already spoken suggestively

¹ *American Lumberman*, February 26, 1916, p. 28.

on a different aspect of the subject. The dendrologists are at liberty to reply in kind.

A comprehensive collection of the trunks, foliage, and fruits of trees furnishes the fundamentals of a forestry exhibit. Next, it is advantageous to show the geography, ecology, and life history of trees. Then, especially in a popular museum, space is usually given to the uses to which the various trees are put as sources of lumber, textiles, paper, chemicals, drugs, etc.

These different aspects of forestry are presented in various museums, but I know of no place where a section is set aside to illustrate the work which the United States Forest Service is doing to save existing forests and to start new ones, as well as to conserve forest products. If attention were skilfully directed to this work in museums several million people would have opportunity every year to learn valuable lessons and it would not be long before such knowledge would become common property. We would not have to wait till the tourist reached the park to educate him in forest preservation. It would be easier also to reach the native inhabitant. Consequently the public generally would be more inclined to join the ranks of the defenders of nature's forest treasury—a kind of "preparedness movement" in which we may all agree.

The work of the Forest Service has some features which are sufficiently spectacular to arouse the dulled sensibilities of many a tired person who seeks entertainment of the choicest sort in a museum. This work could be shown in a special section by many exhibits. The kind of materials might well be outlined by a committee composed of representatives of the Forest Service and of museums. At the Illinois State Museum, for example, I should be glad to have full-sized samples of the posters and signs used by the Forest Service—the present courteous signs as well as the more crude commands of former days. "Break your match in two before throwing it away." "You are careful with fire, help others to be so too," etc. Also, it would be desirable to have models or full-sized figures of a forest ranger with full equipment, samples of signaling apparatus, fire fighting tools, tent, etc.—in short, such things as illustrate the life and valuable work which these men are performing. Photographs, transparencies, and maps would be of assistance.

Then there is the great list of materials which show the economic use of trees, their waste products, etc. No doubt the Forest Service could furnish some of these materials without charge, could aid in

obtaining other things from manufacturers, could prepare still others at a small cost, and by working in connection with museums could contribute practically to the advance of ideas so vital to the welfare of the people.

In the discussion following Dr. Crook's paper Mr. George deS. Canavarro, assistant curator of wood technology in the United States National Museum, spoke briefly of the work in his department. This includes exhibits to illustrate the utilization of domestic and imported woods and their by-products. The work is being done largely in cooperation with lumber associations and manufacturers who furnish the materials. It is proposed to use specimens of full size wherever possible. Mr. Canavarro expressed his desire to illustrate the work of the Forest Service by the use of models, showing forestry methods as used in the national forests.

Miss Eloise Gerry of the committee on museum exhibits in the Forest Products Laboratory at Madison, Wis., spoke briefly of the exhibition work in the Forest Products Laboratory.

The Association then adjourned for luncheon.

The afternoon was occupied by a joint session with the American Federation of Arts. In the evening the Regents and Secretary of the Smithsonian Institution tendered a reception to the members of the American Association of Museums and of the American Federation of Arts.

SESSION OF THURSDAY, MAY 18

Morning

The morning session was called to order by President Farrington. Prof. Homer R. Dill, director of the museum exhibit of vertebrates, State University of Iowa, presented the following paper:

THE CORRELATION OF ART AND SCIENCE IN THE MUSEUM

What is it that makes the museum a success? I believe this question may be satisfactorily answered by a careful study of the people who visit museums. Go to some good museum and stroll quietly about among the groups of spectators and listen to their re-

marks; note carefully the types of exhibits that attract their attention, occasion their comment, and hold their interest. If you are interested and wish to follow up your investigation, go again and as often as you are able. You may thereby get some suggestions for building a museum for the public that never would occur to you otherwise. If you are connected with a museum and have been rash enough to make exhibits of your own it is possible that your pet ideas may receive a distinct shock from the frank criticism of some innocent spectator. Nevertheless, heed well what you may hear, for it is the impression that an exhibit makes on the spectator that counts. No matter how well a group is executed, if it does not tell this spectator the story it was designed to tell, it is a failure.

I remember well my visit to a certain museum where there is an anthropological exhibit. In one of the groups an Indian is represented drilling ivory, using his bow and a piece of metal for the purpose, while close at hand his squaw is engaged in tanning a skin. The group was interesting, and, to my mind, there was no question as to what the Indians were doing. As I was about to leave the exhibit, however, a young lady stopped directly behind me and remarked, "Oh, see the Indian fiddling while his wife is getting supper." After that remark it was obvious that the impression made by the group was misleading. One of the museum attendants informed me later that he had heard people say the same thing a number of times and this despite the fact that the group was well labeled. Labels, we must remember, are only secondary, and are seldom read unless the spectator's interest has first been engaged by the exhibit.

True it is that the public will ask foolish questions and make absurd remarks. All of these, however, should be duly considered. The exhibitor, keeping in mind the fact that his work is to be seen through the eyes of the public and that many things clear to his mind, or to the minds of others in the same work, may not be at all clear to those whom he would instruct by means of his exhibits.

Art students often visit our museum for the purpose of drawing and designing from the mounted specimens. One young lady, a college senior, asked me how we managed to kill the mammals and birds in just the positions we wanted them in for our exhibits. On another occasion we had placed a miniature model of a bison group in the large case that was to be used for the group itself when finished, stating the facts plainly on a label. During the few days that the model was on exhibition a number of people remarked that they did not see why we used such a large case for such a tiny model.

If it is your fortune to have a competitor, listen to his criticisms, even though they be bitter, for he will seek out every fault and point out much that would be overlooked by a more kindly critic. In short, let us have that sense of the value of criticism which prompts the successful moving-picture actor to drop into some theater to see himself on the screen and hear what people have to say about him.

During a visit to the Panama Pacific Exposition in San Francisco, I had an experience which verified a thing that for many years I have believed to be one of the most important features in exhibit work. The first day of my visit found me in the Agricultural Hall standing before an elk group mounted by Mr. James Clark. As I was admiring the work I noticed a dignified old gentleman, of the Oliver Wendell Holmes type, standing nearby. He remarked that it was a fine piece of work. Two days later I was again in the same hall and almost unconsciously I worked my way around to the elk group when to my surprise I found my friend of the previous visit. Smiling he said, "I have interests that bring me to this building, and while I am here I often drop over to admire these animals. Although I know nothing about taxidermy, I do love a work of art whether it is in the form of a picture, statuary, or mounted specimen." On the last day of my visit I once more passed through the Hall of Agriculture, and there by the elk group, among other spectators, was the old gentleman. I stopped to speak with him, and we agreed that it was the art in the group that made it worth seeing many times.

The same spirit was apparent, on a broader scale, among the great crowds of people who came to the exposition to see the sights. The Joy Zone did not attract the largest number of people, nor were the state exhibits in the buildings overcrowded. It was the esthetic, the beautiful, the artistic, that caught and held the masses. They strolled about the courts admiring the architecture, the beautiful flowers, the colors, and the good music. Twenty, or even fifteen years ago such conditions may not have existed, but I believe that the average intelligent person who visited the great exhibit last summer will say that, aside from any special thing in which he may have been interested, it was the whole exhibit in its artistic aspect that made the most favorable impression.

It is true that we cannot divide the public into those classes which do, and those which do not, appreciate art. Among the educated people we often find individuals who are entirely lacking in this respect. This is particularly true of individuals who have specialized

along scientific lines. On the other hand, we occasionally find, in the most common families, individuals who are artistic and who, in so far as their opportunities admit, are appreciative of art.

The following experience convinces me that even the savage may have latent in him some real esthetic instinct. At one time it was my good fortune to know an old Indian guide named Pete. One day I received a letter from a friend, asking me to see if I could engage Pete as a guide for a hunting party, and with him make a canoe trip of fifty miles and join the company. It was on this occasion that I really got acquainted with Pete. The first day was quite uneventful. Pete seldom talked. I remember my pleasure in watching the graceful, rhythmic play of the guide's muscles as our canoe glided along, the silence broken only by the regular "put put" of our paddle blades as they cut the water. About sun-down we made camp at a sharp bend in the stream, a site which afforded an unusual view of nearly a mile of mirror-like water, bordered on either side by the rich reds and yellows of a Canadian autumn. As I sat by the camp-fire watching a flock of loons swim past, leaving a tiny ripple that soon melted from sight, and enjoying the beautiful picture, I happened to glance at Pete. He was sitting on the end of a log smoking, and apparently vacantly gazing out over the same scene. "What you see, Pete?" I asked. "Me like to see um nice woods, nice water, all same me like to chase um deer, shoot um deer, eat um deer," was his reply. I understood. Pete loved the esthetic, as well as the hunt that meant a day's sport and a good square meal.

The next day we came to a carry, where Pete informed me that by taking the canoe and our baggage on our shoulders and making an overland trip of a mile, we could save many miles of paddling. So we proceeded through the crisp morning air and at noon we stopped in a hard-wood grove to eat our lunch. The stillness in this grove was oppressive. There was not a sound, until all at once from some distant thicket there came to our ears the clear flute-like notes of a hermit thrush. Pete heard it and a soft smile spread over his wrinkled, copper-colored face as he remarked, "Um bird, he hain't got no cold."

What had been this man's experience that had caused the veil to be lifted, even though slightly, so that this glint of light shone through? It is true that he or his ancestors knew nothing of books. Could it be the art that is in nature that had accomplished this?

Since the successful introduction of the habitat groups into some

of the larger museums, there has sprung up all over the country, a desire to have something of the kind in the smaller museums as well; and the work has been undertaken oftentimes without the slightest knowledge of how such work should be done, and in violation of all the laws of art and science. The result is that some of the most hideous productions have been placed on exhibition. There may be some excuse for a poorly mounted specimen in a serial collection, but there is no excuse for attempting to make habitat groups without some special knowledge of the work. No scientist can do the work without a supplementary knowledge of art; nor can an artist do any thing worth while without scientific training in the technique of such work and a real knowledge of the subject to be handled. Beautiful pictures painted from fancy have no more value in a museum than have inartistic groups. Such exhibits ought not to be tolerated for many reasons. They have no educational value; they fill up space that might be used for something worth while; they often waste rare specimens which cannot be replaced, and which on account of improper treatment eventually go to pieces.

No intelligent person questions the importance of having a museum on a scientific basis. The information propagated by a museum should be absolutely dependable. Every setting for a group should tell a true story. A museum, however, can be strictly scientific, and yet fail utterly in its mission. The dreary, monotonous exhibits of the old-fashioned institutions have demonstrated this. The few people who went to the collections were fatigued by their visits. It is true that a part of the weariness caused by these old exhibits was physical, owing to the poor arrangement of the specimens which made it necessary for the spectator to get into many unnatural positions in order to see the objects and read the labels. I believe, however, that the major part of the fatigue and discomfort came from a mental rather than a physical strain.

A friend of mine who is a hunter and naturalist, once asked me to go with him through one of the older museums in the East. We met by appointment and spent the entire day looking over the various collections. When night came my friend asked to be excused from an engagement for that evening, saying that he believed he would go to bed as he was completely exhausted. Now this same friend on a previous occasion tramped miles with me in the woods, climbed trees for birds' eggs, crawled hundreds of yards flat on his stomach after young ducks, and yet when night came was not seriously fatigued.

In these days when all wild life is rapidly disappearing, when the specimens that we are placing in our exhibits may be the last of their kind to be secured, there is brought home to all of us the importance of permanently preserving them, of being sure that we have taken every precaution for their safety. In these days of experiment and investigation, I believe there is no excuse for a museum man who does not keep up with the times, and permanently and artistically preserve for future generations some of the phenomena of nature that will soon be gone forever.

In early days all kinds of museum material could be collected with little difficulty. Grease-burned skins, museum metal-disease, and other things that now try the soul of a curator were, if not unheard of, at least not generally known. Today the matter of permanently preserving museum material is one of the most serious things that confronts us. Any of the people who lived in the Middle West fifty years ago, can remember the great flocks of passenger pigeons. We have records to show that they were sold in the market for one cent each, and yet today it is impossible to find a perfect skin. How many pigeon skins could a man get if he were to make a standing offer of \$50 per skin? What would one have to pay for the skin of a California condor, an ivory-billed woodpecker, a heath hen, or a Carolina parakeet, and what would be the condition of these skins if he did succeed in finding them? Recently we succeeded in getting three passenger pigeons that had been mounted thirty to thirty-five years ago. These birds we remounted and placed in an exhibit in our museum. The skins were all badly grease-burned and the oldest went to pieces so that it was necessary to cement the twenty odd parts on a modeled form. From this one skin we took over an ounce of oil besides the fat that was removed by the use of alkalis. How many of us are sure that some of the valuable skins that we are putting into our collections today are not in the same condition? It is not an infrequent thing to have people ask how long these specimens that we are preparing today will last. We like to say, "Indefinitely," and in most cases we can. But the question, "How do you know?" has been a little difficult to answer satisfactorily. We know that the animal oils or fats in skins contain acids that slowly destroy the tissue. In our laboratory experiments we have demonstrated that these oils are readily turned to soap by the use of soda, borax, and talc. The soap and glycerine formed by the process are slightly antiseptic and are not injurious to the skin, but if so desired, they may be removed by washing the skins in water.

We believe that, after the oils have been removed, the skins should keep. Now for the proof!

It was during the summer of 1915 that I visited the Deseret Museum, Salt Lake City. In that interesting collection taken from the cliff-dweller's huts in southern Utah, I unexpectedly found the proof. This material to which I refer, is said by good authority to be from one thousand to fifteen hundred years old. Among the many notable things are two deer skins and the skin of a small blue-bird, all in a perfect state of preservation, even the feathers on the bird being intact. These specimens were dug from the loose soil forming the floors of the huts. This natural soil (according to geologists who are informed on the subject) contains crude soda, potash, and magnesium, and these ingredients have preserved the skins by their action on the oils, the process, although crude, being the same that we are using in our laboratory today. The cliff-dwelling Indian had no idea of permanently preserving the skins when he buried them there. We go to nature for our art; we scrutinize every little detail to make our exhibit a success; and now we find that she has set the pace even in the matter of preserving material. To answer further the question of how long organic material may be preserved we have but to visit the tar pits at Rancho La Brea and see the perfect skeletons two hundred thousand years old.

Is it not the correlation of art and science that will make the museum a success? A man who studies science to the exclusion of everything else is likely to become cold, unsympathetic, and narrow. The more he specializes the more he isolates himself from his fellows. The man who studies art and nothing else becomes insipid and impractical. But when we combine the two we get art that is useful and science that is broad; we get individuals who can do something worth while; we get the sort of art and science that men like Akeley, Knight, and Fuertes have combined in their work. I believe that such a union of art and science is bound to remove the objectionable features of the museum. When we have said good-bye to the T-perches, polished bases, the poorly-lighted cases and dingy walls; when we have given some thought to the decoration of the exhibit rooms; when we have museum men who do their work seriously and for the love of doing a thing well; when we send men into the field who have the power of keen observation, the technique, and the artistic ability faithfully to record the facts that can be obtained only from live animals in their natural environments—then we have

secured a means of conveying scientific facts to the public in adequate form. Such exhibits, combining with accurate, scientific information the best that there is in art, will reach not only the student but the layman as well. They will reach where books seldom go to the improving of men's minds and to helping them to higher conceptions and new appreciations of nature and her manifold and marvelous works.

In the discussion following Professor Dill's paper, Mr. Dwight Franklin spoke of the value of Japanese prints as a means of obtaining suggestions for the artistic grouping of specimens. Dr. A. R. Crook of the Illinois State Museum suggested that museum fatigue may be as much due to psychological as to physical causes. He then expressed his interest in Professor Dill's ideas with regard to the lasting qualities of specimens treated by modern methods. Several members participated in a brief discussion of the relative bleaching effect of diffused daylight and of various types of electric light.

Mr. Benj. Ives Gilman, secretary of the Museum of Fine Arts, Boston, then presented the following paper:

ADMINISTRATIVE ORGANIZATION AND ITS TWO PERTURBATIONS

Administrative organization differs from other kinds in establishing the relation of superior and subordinate. Runners might agree to relay a message, or porters combine to carry a trunk, without any being over or under any other; but in an administrative bureau authority exists in grades. *Administration* from the Latin *ad* (to) and *minus* (less) expresses subordination and implies superiority.

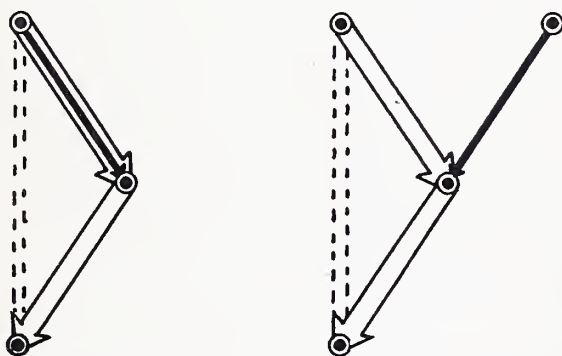
A superior is he who commands; a subordinate he who obeys. A superior issues orders; a subordinate executes them. But before an order can be given and executed there must be an agreement as to who shall give it and who execute it. Appointment precedes command. A channel of authority must be laid down before the authority can be exercised.

Administrative machinery is subject to two cardinal forms of derangement—one functional, one structural. Both are diversions of authority from its appointed channel; but the lighter affects authority only, the graver involves also appointment. The lighter

may accordingly be called maladministration, the graver disorganization.

In the accompanying illustration these two administrative ills are exhibited in two figures. The dotted circles represent official positions; the heavy black arrow represents appointment; the outline arrow represents the channel of authority or the orders which follow it. The dotted lines represent the vicious exercise of authority. This appears in the aspect of short circuits. In administrations of all kinds such divagation of authority is called "going over A's head" or "interference with A."

A joint meeting of two committees of certain trustees—a committee that managed their finances and a committee that managed their



MALADMINISTRATION

DISORGANIZATION

school—was once called to consider financing a school building. A building committee of the same trustees was already in existence. Soon after the conference convened, one of the members spoke as follows: "It seems to me that when the trustees have asked some gentlemen to attend to certain business for them, they ought not to step in and do a part of it themselves." All present assented, and after voting to invite the building committee to consider the question in hand, the joint meeting adjourned *sine die*. The action inadvertently and very naturally contemplated by the conferees was abandoned as soon as its nature as an administrative short circuit was clearly set before them.

This utterance of practical wisdom contained in germ the whole theory of administrative organization. Addressing the assembled gentlemen as if they were a meeting of the board of trustees itself,

the speaker admonished them that having appointed a subordinate body—namely, the building committee—to a certain duty, they were now preparing to go over that subordinate's head. The remark brings out the fundamental fact that *the sphere of a superior is his subordinate, not the subordinate's work*. The work is the sphere of the subordinate; whose appointment to it automatically *dis*-appoints others, his superior among the number. A superior cannot *do*; he can only *order done* by the proper subordinate. The lesson of the remark may be put into the form of the following general formula for normal administration:

Anything that is proper for a subordinate to do is improper for anyone else, including his superior.

The reason why an act in an allotted sphere is normally improper for anyone other than the person to whom it has been allotted is that it in so far forth nullifies the allotment. In particular, for a superior to allow anyone else to do the work of his subordinate is to appoint himself or the other for the time being in the subordinate's stead. It is, in a word, the supersession of the subordinate.

Two cases are possible: either the subordinate is the appointee of the person superseding him, or he is not. The two diagrams represent the two cases.

1. The subordinate is an appointee of the person superseding him. He may be superseded either for a cause in the conditions of the enterprise administered or without such cause. If for cause, the supersession is of the nature of punishment, not a normal condition but an attempt to correct abnormal conditions. If without cause, the supersession is again abnormal, being of the nature of a revision of judgment on the part of the appointing power. It is a change from the administrative structure once decided upon. It is an example of vacillation in the management of the organization. It is further a discouragement to the official temporarily relieved of his duty. His plans of work are set in abeyance from no fault of his own. It is therefore doubly a case of administrative inefficiency. In a word, it is *mal-administration*.

There is a case in which a superior may temporarily perform a subordinate's duty without superseding him. This is the case in which his duty is assumed in order to show him how to perform it. Such a temporary re-allotment of duty is a part of his instruction and not a part of his official work, unless indeed extended until it implies that the subordinate is slow at his lesson. In this event it takes on the punitive tinge.

2. The subordinate is not an appointee of the superior usurping his duty. Such action on the part of a superior constitutes a defiance of the authority making the appointment. It confronts this authority with a hostile organizing act. It is not a lapse, but a breakdown of the organization. In a word, it is *dis-organization*.

In a complex organization an official may be at once superior and subordinate; and his superior may himself be also a subordinate and his subordinates also superiors. Toward his superior the duty of any official is to execute the superior's orders and to abstain from executing those of anyone else. Toward his subordinates the duty of any official is to give orders to them and to them only—not even to himself in their stead. It is to be noted that in practice any personal relations between members of the same organization outside of the established channels of authority need to be watched lest they assume an official tinge and thereby tend to short circuit the organization and diminish its efficiency.

An official may be tempted to overstep the appointed channels of authority in both ways. As a superior he may find it easier to get something done within a subordinate's sphere by doing it himself or getting someone else to do it than to order it done by the subordinate. This is notably the case when there is not entire harmony of ideas between subordinate and superior. As a subordinate an officer may find it easier to do something within his sphere by obtaining for it the authority of someone else than his superior, who may not share his opinion of its importance. The authority of some power superior to both may be invoked. When the course in question is important, the temptation may be too strong to resist. Nevertheless, the duty of the forthputting official is plain and the corresponding right of the officer interfered with is plain; and any such short circuit gives a *prima facie* cause for complaint. But the sin of passing beyond superiors by no means besets subordinates as the sin of going over the heads of subordinates besets superiors. As usual in human affairs, the greater fault is with the stronger party.

Much administrative friction and many dangerous administrative blazes arising from these personal ambitions and differences might be avoided were official right and official duty clearly evident to those involved, as these diagrams present them.

Nevertheless, there may in any case be good reason for dissatisfaction either with the orders of a superior or the acts of a subordinate. A certain capacity to adjust itself may be assumed as proper to a

living organism. Some right of appeal from a superior and some right of the supersession of a subordinate is therefore a condition of the maintenance of any administrative organization in normal functioning.

The only appeal applicable to all cases is an appeal to the highest authority in the organization. Hence, the right of appeal to a monarch or to the presiding officer in non-political organizations is universally recognized as an inalienable privilege of any official, even the humblest. It is also a forcible but justifiable means by which an ultimate authority may be called upon for a review of the acts of a subordinate. Such occasional reviews are always wholesome and not infrequently necessary. At the same time an appeal is in effect a criticism of the officer appealed from and nearly or remotely suggests his removal.

A correlative right of supersession is also recognized when employed as a diplomatic means of inviting a subordinate to perform his duties better, if not to relinquish them. Like a signal for trumps at cards, an extraordinary act—in this case the performance by a superior, or by someone else designated by him, of a subordinate's duties—is used to attract the notice of the person concerned to a need that he can supply. The need here suggested is that of better work, perhaps by someone better qualified. An official should, therefore, always be alive to the possible meaning to him of a notable invasion of his sphere by a superior. Only two alternatives are possible: either the superior has given the subordinate just cause for complaint against him, or has taken a delicate method of signifying causes for complaint against the subordinate. If the subordinate suspects this dissatisfaction, let him bethink himself or offer his resignation, lest discipline or removal follow. If not, and if these diagrams show that he has cause to complain, let him enter his complaint promptly, discreetly, and resolutely.

On motion of Dr. A. R. Crook, the Association voted that a committee of three be appointed by the President to confer with the Forest Service as to methods by which the museums of the country may illustrate the work of the Forest Service. The President appointed on this committee Messrs. A. R. Crook, Boyd P. Rothrock, and Frank C. Baker.

The suggestion of Dr. Walter Hough that a symposium on the

preservation and care of museum specimens be arranged for the next meeting was received with favor.

The Association voted to request the Council to consider the preparation and distribution of a communication inviting members of museum corporations to become active members of the Association. The Council subsequently appointed Messrs. B. I. Gilman, N. H. Carpenter, and H. W. Kent as a special committee to prepare a plan for this work.

The Association voted that a committee of three be appointed by the President to cooperate with the American Federation of Arts. The President subsequently appointed on this committee Messrs. H. W. Kent, Walter Hough, and P. M. Rea.

An invitation to meet in New York City in 1917 was then presented on behalf of the American Museum of Natural History in New York. The Museum of Natural History and the Art Museum in Springfield, Mass., invited the Association to meet in that city in 1917. The Philadelphia Museums extended an invitation to meet in Philadelphia in 1917. Prof. Homer R. Dill expressed his desire to have the Association meet in Iowa City, and Dr. James E. Talmage reminded the Association that it had a standing invitation from the Deseret Museum in Salt Lake City. The Association passed a vote of thanks for these invitations and referred the decision as to the next place of meeting to the Council with power to act.

Mr. Charles L. Freer was then unanimously elected first Honorary President of the Association.¹

Mr. Benj. Ives Gilman, secretary of the Museum of Fine Arts in Boston, reported for the information of the Association the incorporation under the laws of Massachusetts of a Settlements Museum Association having the following plan:

The Association purposes to erect a small fireproof building in a crowded section of Boston as the nucleus of a Children's Museum of Fine Arts which shall have, eventually, as many branches as are needed to make its collections accessible to all Boston children; to exhibit pictures and other works of art and of artistic workmanship; to open its doors freely to children; and to lend to individuals for purposes of study and aesthetic enjoyment, prints, textiles, designs and other art objects. It purposes to set the first children's museum in a garden where musical concerts may be given and, as soon as may be, to establish a school in which shall be taught drawing, design, modeling, fine handicraft and an appreci-

¹ On account of ill health Mr. Freer was unable to accept the office of Honorary President.

ation of the arts and of architecture. This school would prepare boys and girls to profit by the facilities for study already available at the Museum of Fine Arts and in other schools. It would aim to raise the standards of public taste and "make more useful to the community and to the State what has been so generously given for the benefit of the community."

Dr. W. P. Wilson of the Philadelphia Museums referred to the movement already under way in Philadelphia for the organization of a series of about ten museum extension centers. The first of these is located in one of the most densely populated manufacturing districts of Philadelphia. There is an auditorium accommodating about five hundred children at a time, with lantern and moving picture facilities as well as museum material to illustrate all phases of the commerce and geography studied in the schools. The Philadelphia Museums prepared the plans for this work and have furnished the moving picture outfit, lantern slides, and illustrative material. The instruction is given by the museum staff rather than by the schools since the curators in the museum are especially trained in this sort of work.

The following resolutions were unanimously adopted:

Resolved, That the hearty thanks of the American Association of Museums be tendered to the Regents and Secretary of the Smithsonian Institution for the reception tendered the Association; to the officers of the National Museum, the Corcoran Gallery of Art, and the Army Medical Museum; to the Director of the Bureau of Engraving and Printing and the Director of the Bureau of Standards; and to the local committee of the Association, and further be it

Resolved, That the appreciation of the Association be tendered to Mrs. William M. Ritter for the invitation to her home, and to Miss Leila Mechlin and the American Federation of Arts for extending to the Association an invitation to the Garden Party at the Octagon.

President Farrington then expressed the pleasure he had derived from his term as President, congratulated the Association on the bright future before it, and formally delivered the official gavel to the incoming President. President Howland then took the chair and spoke as follows:

President Howland.—"Dr. Farrington, ladies, and gentlemen: I appreciate very much the honor you have conferred upon me and I hope that you may not have made any mistake. I shall have warmly

at heart the best interests of the American Association of Museums and I beg of each and every one of you that cooperation which should come from a hearty desire to further the work of the Association. I also ask you to help those whom you have chosen to place in charge in carrying out a very difficult duty. I shall lean heavily upon all of you."

On motion the Association then adjourned sine die.

APPENDIX

CONSTITUTION OF THE AMERICAN ASSOCIATION OF MUSEUMS

ARTICLE I

NAME

The name of this Association shall be "The American Association of Museums."

ARTICLE II

OBJECT

The object of this Association shall be to promote the welfare of Museums, to increase and diffuse knowledge of all matters relating to them, and to encourage helpful relations among Museums and those interested in them.

ARTICLE III

MEMBERSHIP

All Museums officially represented at the first meeting of this Association, held at the American Museum of Natural History in New York, on May 15, 1906; all persons taking part in the organization of this Association, or who on the above date, or prior thereto, have by letter signified their wish to become members of the Association, shall become Charter Members on payment before the next annual meeting of the Association of the fees hereinafter provided for.

The Members of the Association shall be Active, Associate, Sustaining and Honorary.

Persons actively engaged in the work of Museums may become Active Members on the payment of three dollars per annum, and may become Active Members for Life upon payment of thirty dollars at any one time.

Persons contributing one dollar per annum may become Associate Members.

Each Museum paying not less than ten dollars a year shall be a Sustaining Member of the Association, and through its chief executive officer or a properly accredited representative, shall be entitled to cast a vote on all matters coming before the Association.

Persons distinguished for eminent services, either to the cause of Museums or to this Association, may become Honorary Members. The number of Honorary Members shall be limited to fifteen. When ten Honorary Members have been elected then thereafter not more than two such members may be elected annually.

Active and Sustaining Members only shall have a right to vote, and Active Members only may hold office.

Any Museum or person proposed in writing for Active, Associate, or Sustaining Membership by a Member of the Association, and approved by the Council, upon the payment of the proper fee shall become a Member of the Association.

Any person contributing five hundred dollars or more at any one time shall become a Patron of the Association.

ARTICLE IV

OFFICERS

The officers of the Association shall be a President, a Vice-president, a Secretary and a Treasurer, and six other persons designated as Councilors, and these ten shall constitute the Council.

The President and the Vice-president shall each serve two years, and during the succeeding two years shall be ineligible for re-election to the same office. The Councilors shall each serve three years, and for one year thereafter shall be ineligible for re-election to the same office. Two Councilors shall retire annually and two Councilors shall be elected annually, except that, in the year of a presidential election, the retiring president shall become a Councilor and the Association shall elect one other Councilor.

Upon recommendation of the Council the Association may elect an Honorary President to hold office for the term of two years. An Assistant Secretary may also be elected.

ARTICLE V

COUNCIL

The general control of the affairs of the Association, except as otherwise herein provided, shall be vested in the Council.

ARTICLE VI

ELECTION OF OFFICERS

Officers shall be elected by ballot at the annual meeting.

The Council shall have power to fill any vacancies which may occur in its membership between annual meetings.

ARTICLE VII

MEETINGS

A general meeting shall be held in each calendar year. Special meetings may be appointed by the Association or called by the Council. The time and place of the annual meeting shall be determined by the Association. In order to diffuse a knowledge of Museums and their work, the Association shall meet in a different city or town each succeeding year, unless otherwise determined by the Association.

At the annual meeting papers may be read, matters relating to Museums dis-

cussed, and any business relating to the affairs of the Association shall be transacted.

Special meetings may be called by the Council in emergencies, and only matters stated in the call shall be considered at such special meetings.

ARTICLE VIII

PUBLICATIONS

The publications of the Association shall be distributed free to all Sustaining and Active Members who have paid their dues for the year of issue. Associate Members may obtain the Proceedings in paper covers at one dollar, or in cloth binding at one dollar and twenty-five cents.

ARTICLE IX

AMENDMENTS

This Constitution may be amended by a two-thirds vote of the members present and voting at any meeting, provided that every proposed amendment shall be first considered by the Council and be reported by the Council with or without recommendation.

RULINGS OF THE COUNCIL

The Secretary is authorized and directed to use his discretion in editing the *Proceedings* and in condensing discussions of business and of papers.

Members two years in arrears for dues are required to be dropped from the roll.

SUMMARY OF TREASURER'S REPORT FOR THE YEAR ENDED MAY 15, 1916

Balance on hand, May 15, 1915.....	\$554.57
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RECEIPTS

Sustaining memberships.....	\$515.00
Active memberships.....	717.00
Associate memberships.....	21.00
Sale of publications, reprints, etc.....	141.51
	1,394.51
Total receipts.....	\$1,949.08

EXPENDITURES

Office expenses:	
Salaries.....	\$410.00
Postage, printing, and petty cash.....	123.07
Stationery and supplies.....	24.60
Convention expenses:	
Printing, badges, etc.....	41.16
Traveling expenses.....	300.00
Reporting proceedings.....	90.00
Publication of <i>Proceedings</i> :	
Printing.....	437.04
Freight and carting.....	8.34
Envelopes.....	8.25
Storage book boxes.....	9.20
Total expenditures.....	\$1,451.66
Balance on hand, May 15, 1916.....	\$497.42

MEMBERS OF THE AMERICAN ASSOCIATION OF MUSEUMS¹

PATRONS

Huntington, Archer M., 15 West 81st Street, New York City.

SUSTAINING MEMBERS

- Academy of Natural Sciences of Philadelphia, Philadelphia, Pa.
 Alabama Museum of Natural History, University, Ala.
 *American Museum of Natural History, New York City.
 American Numismatic Society, New York City.
 Arnold Arboretum, Boston, Mass.
 Arnot Art Gallery, Elmira, N. Y.
 *Art Association of Indianapolis (John Herron Art Institute), Indianapolis, Ind.
 *The Art Institute of Chicago, Chicago, Ill.
 Battle Creek Public School Museum, Battle Creek, Mich.
 Bernice P. Bishop Museum, Honolulu, T. H.
 Boston Society of Natural History, Boston, Mass.
 *The Brooklyn Museum, Eastern Parkway, Brooklyn, N. Y.
 Buffalo Historical Society, Buffalo, N. Y.
 Buffalo Society of Natural Sciences, Buffalo, N. Y.
 California Academy of Sciences, San Francisco, Cal.
 *Carnegie Museum, Department of the Carnegie Institute, Pittsburgh, Pa.
 *The Charleston Museum, Charleston, S. C.
 *The Chicago Academy of Sciences, Lincoln Park, Chicago, Ill.
 Cincinnati Museum Association, Cincinnati, Ohio.
 Cleveland Museum of Art, Cleveland, Ohio.
 Colorado Museum of Natural History, Denver, Col.
 *The Corcoran Gallery of Art, Washington, D. C.
 Davenport Academy of Sciences, Davenport, Iowa.
 Department of Archæology, Phillips Academy, Andover, Mass.
 *Deseret Museum, Salt Lake City, Utah.
 The Essex Institute, Salem, Mass.
 *The Fairbanks Museum of Natural Science, St. Johnsbury, Vt.
 *Field Museum of Natural History, Chicago, Ill.
 Geological Survey of Canada, Ottawa, Ontario, Canada.
 Germanic Museum, Harvard University, Cambridge, Mass.
 Hispanic Society of America, New York City.
 Illinois State Museum, Springfield, Ill.
 Joseph Moore Museum, Earlham College, Earlham, Ind.
 Mattatuck Historical Society, Waterbury, Conn.
 *Metropolitan Museum of Art, New York City.
 Michigan Historical Commission, Lansing, Mich.
 Minneapolis Institute of Arts, Minneapolis, Minn.
 *Museum of Fine Arts, Boston, Mass.

¹ The asterisk (*) denotes a Charter Member.

Museum of the Grand Lodge of F. and A. M. of Pennsylvania, Masonic Temple, Philadelphia, Pa.

*New York Botanical Garden, Bronx Park, New York City.

*New York State Museum, Albany, N. Y.

Newark Museum Association, Newark, N. J.

Northwestern University, Museum of the College of Liberal Arts, Evanston, Ill.
Park Museum, Providence, R. I.

Peabody Museum, Salem, Mass.

*Pennsylvania Museum and School of Industrial Art, Memorial Hall, Fairmount Park, Philadelphia, Pa.

Pennsylvania State Museum, Harrisburg, Pa.

The Philadelphia Museums, 34th St., below Spruce, Philadelphia, Pa.

Provincial Museum, Department of Agriculture, Regina, Saskatchewan, Canada.

*Public Museum of the City of Milwaukee, Milwaukee, Wis.

Smithsonian Institution, Washington, D. C.

Springfield Art Museum, Springfield, Mass.

Springfield Museum of Natural History, Springfield, Mass.

Toledo Museum of Art, Toledo, Ohio.

*University Museum, Department of Archæology, University of Pennsylvania, Philadelphia, Pa.

Wadsworth Athenæum, Hartford, Conn.

Worcester Art Museum, Worcester, Mass.

LIFE MEMBERS

Clowes, Herbert, Landscape Modeler, Public Museum of the City of Milwaukee, Milwaukee, Wisconsin.

Crook, A. R., Curator, Illinois State Museum of Natural History, Springfield, Illinois.

Graves, F. P., Graves Private Museum, Doe Run, Mo.

Harris, Norman W., Field Museum of Natural History, Chicago, Ill.

*Henshaw, Samuel, Director, Museum of Comparative Zoology, Harvard University, Cambridge, Mass.

*Holland, W. J., Director, Department of the Museum, Carnegie Institute, Pittsburgh, Pa.

Osborn, Henry Fairfield, President, American Museum of Natural History, New York City.

Parrish, Samuel L., Southampton Art Museum, Southampton, Long Island, N. Y.

*Talmage, James E., Director, Deseret Museum, Salt Lake City, Utah.

Thayer, John E., Director, Thayer Museum, Lancaster, Mass.

ACTIVE MEMBERS

Abbot, Edith R., Instructor, Metropolitan Museum of Art, New York City.

*Adams, Charles C., New York State College of Forestry, Syracuse, N. Y.

Adickes, Thomas W., Assistant Curator, North Carolina State Museum, Raleigh, North Carolina.

Agostini, Serafino, Assistant Preparator, Department of Paleontology, Carnegie Museum, Pittsburgh, Pa.

Aitkin, Helen J., Assistant Curator, Division of Conchology, The Brooklyn Museum, Eastern Parkway, Brooklyn, N. Y.

*Akeley, C. E., Taxidermist, Studio at American Museum of Natural History, New York City.

Albrecht, Clarence J., Director of Vertebrate Exhibits, State Museum, University of Washington, Seattle, Wash.

*Allen, Joel A., Curator of Mammalogy and Ornithology, American Museum of Natural History, New York City.

Alliot, Hector, Curator, The Southwest Museum, Los Angeles, Cal.

*Ami, Henry M., Strathcona Park, Ottawa, Ontario, Canada.

Atkinson, D. A., Custodian of Reptiles, Carnegie Museum, Pittsburgh, Pa.

Atwood, W. W., Director, Chicago Academy of Sciences; Trustee, Children's Museum of Boston. Address: Harvard University, Cambridge, Mass.

Austin, Thomas L., Curator, Erie Public Museum, Erie, Pa.

Bailey, Alfred M., Curator, Department of Birds and Mammals, Louisiana State Museum, New Orleans, La.

Bailey, B. H., Curator, Coe College Museum, Cedar Rapids, Iowa.

*Baker, Frank C., Zoological Investigator, New York State College of Forestry, Syracuse, N. Y.

Baker, Howard H., Vice-president, Buffalo Society of Natural Sciences. Address: 598 Richmond Avenue, Buffalo, N. Y.

*Barber, Edwin AtLee, Director of Museum, Pennsylvania Museum and School of Industrial Art, Philadelphia, Pa.

*Barbour, Erwin Hinckley, Curator, State Museum, Lincoln, Neb.

Barbour, Thomas, Associate Curator of Reptiles, Museum of Comparative Zoology, Cambridge, Mass.

Barrett, S. A., Curator of Anthropology, Public Museum of the City of Milwaukee, Milwaukee, Wis.

Bassler, R. S., Curator of Paleontology, United States National Museum, Washington, D. C.

*Beatty, John W., Director, Department of Fine Arts, Carnegie Institute, Pittsburgh, Pa.

*Bennett, Bessie, Curator of Decorative Arts and Assistant to the Director, The Art Institute of Chicago, Chicago, Ill.

Bennett, Leslie J., Board of Managers, Buffalo Society of Natural Sciences. Address: Austin Building, Buffalo, N. Y.

Bergeron, Mrs. Eva Rowley, Artist and Photographer, The Chicago Academy of Sciences, Chicago, Ill.

Berwick, William, Restorer of Documents, Library of Congress, Washington, D. C.

Bethel, Ellsworth, President, Colorado Academy of Sciences, Denver, Col.

Block, Maurice, Assistant, Art Institute of Chicago, Chicago, Ill.

Bolton, Herbert, Director, Bristol Museum and Art Gallery, Bristol, England.

Boyle, C. W., Curator, Isaac Delgado Museum of Art, New Orleans, La.

Brah, Bernard H., Assistant, Department of Anthropology, Public Museum of the City of Milwaukee, Milwaukee, Wis.

*Brigham, William T., Director, Bernice P. Bishop Museum, Honolulu, T. H.

Brimley, Herbert H., Curator, North Carolina State Museum, Raleigh, N. C.

- *Britton, N. L., Director-in-chief, New York Botanical Garden, Bronx Park, New York City.
- Brockett, Paul, Assistant Librarian, Smithsonian Institution, Washington, D. C.
- Brooks, Neil C., Curator, Museum of European Culture, University of Illinois, Urbana, Ill.
- Brown, Charles E., Chief, State Historical Museum of Wisconsin, Madison, Wisconsin.
- *Bryan, William Alanson, Professor of Zoology, College of Hawaii, Box 38, Honolulu, T. H.
- Bryant, William L., Custodian of Museum, Buffalo Society of Natural Sciences, Buffalo, N. Y.
- Buck, Solon J., Superintendent, Minnesota Historical Society, St. Paul, Minn.
- *Bumpus, Hermon C., President, Tufts College, Tufts College, Mass.
- *Burchard, Edward L., Editor, Public Service Exhibit Bureau, 31 W. Lake Street, Chicago, Ill.
- Burroughs, Clyde H., Secretary and Assistant Director, Detroit Museum of Art, Detroit, Mich.
- Butler, Edward H., Jr., Board of Managers, Buffalo Society of Natural Sciences. Address: 672 Delaware Avenue, Buffalo, N. Y.
- Carpenter, Newton H., Business Manager and Director pro tem, The Art Institute of Chicago, Chicago, Ill.
- Carrington, FitzRoy, Curator of Prints, Museum of Fine Arts, Boston, Mass.
- Chapman, Frank M., Curator of Ornithology, American Museum of Natural History, New York City.
- Clark, James L., Special Taxidermist, American Museum of Natural History, New York City.
- Clark, Lotta A., Boston Normal School, Boston, Mass.
- Clarke, John M., Director, New York State Museum, Albany, N. Y.
- Connolly, Louise, Educational Adviser, State Museum, Trenton, N. J.
- Cowan, Robert E., Historian, 867 Treat Ave., San Francisco, Cal.
- Crocker, Anna B., Curator, Portland Art Association, Portland, Ore.
- Cummings, Byron, Director of the Museum, University of Arizona, Tucson, Ariz.
- Cummings, Carlos E., Secretary, Buffalo Society of Natural Sciences, Buffalo, New York.
- Cushman, Joseph A., Assistant Curator, Boston Society of Natural History, Boston, Mass.
- Daggett, Frank S., Director, Museum of History, Science and Art, Los Angeles, Cal.
- Dahlgren, B. E., Modeler, Department of Botany, Field Museum of Natural History, Chicago, Ill.
- Dana, John Cotton, Secretary and Director, Newark Museum Association, Newark, N. J.
- *Dean, Bashford, Curator Emeritus of Fishes and Reptiles, American Museum of Natural History; Curator of Arms and Armor, Metropolitan Museum of Art, New York City.
- *de Forest, Robert W., President, Metropolitan Museum of Art, New York City.
- deVeer, Mrs. D. W., Assistant Curator, Oakland Public Museum, Oakland, Cal.

- Dill, Homer R., Director of Museum Exhibit of Vertebrates, State University of Iowa, Iowa City, Iowa.
- Dodge, Charles Wright, Curator of Botany and Zoology, University of Rochester, Rochester, New York.
- Doelle, John A., Superintendent, Houghton Public Schools, Houghton, Mich.
- *Dow, George Francis, Secretary and Curator, The Essex Institute, Salem, Mass.
- Driscoll, Lucy C., Instructor in History of Art, University of Chicago, Chicago, Ill.
- Eberhardt, Robert G., In charge Mrs. A. B. Spreckels Museum, 2042 Vallejo St., San Francisco, Cal.
- *Eigenmann, Carl H., Curator of Ichthyology, Carnegie Museum, Pittsburgh, Pennsylvania.
- Elliott, Huger, Supervisor of Educational Work, Museum of Fine Arts, Boston, Mass.
- Emerson, B. K., In charge of Geology, Amherst College Museum, Amherst, Mass.
- Evermann, Barton W., Director, California Academy of Sciences, San Francisco, Cal.
- Failing, Henrietta H., Late Curator, Portland Art Association. Address: 617 Johnson Street, Portland, Oregon.
- Fairbanks, Arthur, Director, Museum of Fine Arts, Boston, Mass.
- *Farrington, Oliver C., Curator of Geology, Field Museum of Natural History, Chicago, Ill.
- Fenneman, N. M., Professor of Geology, University of Cincinnati, Cincinnati, Ohio.
- Fischer, Eugene J., Osteologist and Preparator, Museum of History, Science and Art, Los Angeles, Cal.
- Fisher, G. Clyde, Assistant Curator, Department of Public Education, American Museum of Natural History, New York City.
- Fisher, William L., Assistant Curator, Philadelphia Museums, Philadelphia, Pa.
- Flint, Sarah G., Assistant in charge of Textiles, Museum of Fine Arts, Boston, Mass.
- Foote, Warren M., Mineralogist, Philadelphia, Pa.
- Forbes, Edward W., Director, Fogg Art Museum, Harvard University, Cambridge, Mass.
- Foster, Helen W., Assistant, Newark Museum Association, Newark, N. J.
- Fox, William Henry, Director of Museums, Brooklyn Institute of Arts and Sciences, Brooklyn, N. Y.
- Franklin, Dwight, Preparator of Ethnological Groups, 1947 Broadway, New York City.
- Gaige, Mrs. Frederick M., Administrative Assistant, Museum of Zoology, University of Michigan, Ann Arbor, Mich.
- *Gallup, Anna Billings, Curator, Children's Museum, Brooklyn Institute of Arts and Sciences, Brooklyn, N. Y.
- *Gest, J. H., Director, Cincinnati Museum, Cincinnati, Ohio.
- Gibson, Mrs. Emily J., In charge of Educational Work, Cleveland Museum of Art, Cleveland, Ohio.
- Gifford, E. W., Associate Curator, Museum of Anthropology, University of California, San Francisco, Cal.

- *Gilman, Benj. Ives, Secretary, Museum of Fine Arts, Boston, Mass.
Glenk, Robert, Director, Louisiana State Museum, New Orleans, La.
Goodale, George Lincoln, Honorary Curator, Botanical Museum, Harvard University, Cambridge, Mass.
*Goodyear, William H., Curator of Fine Arts, The Brooklyn Museum, Eastern Parkway, Brooklyn, N. Y.
*Gordon, G. B., Director, University Museum, University of Pennsylvania, Philadelphia, Pa.
Grant, U. S., Curator, Museum of the College of Liberal Arts, Northwestern University, Evanston, Ill.
Gray, Morris, President, Museum of Fine Arts, Boston, Mass.
*Greenman, Milton J., Director, The Wistar Institute of Anatomy, Philadelphia, Pennsylvania.
*Griffin, Delia Isabel, Director, Children's Museum of Boston, Olmsted Park, Jamaica Plain, Mass.
Grinnell, Joseph, Director, Museum of Vertebrate Zoology, University of California, Berkeley, Cal.
Hall, F. S., Curator, State Museum, University of Washington, Seattle, Wash.
Hall, Mrs. Herman J., Museum Instructor, Art Institute of Chicago, Chicago, Ill.
*Henderson, Junius, Curator of the Museum, University of Colorado, Boulder, Colorado.
Henderson, R. W., Assistant, Museum of Natural History, University of Iowa, Iowa City, Iowa.
Hewitt, Eleanor G., Director, Museum of the Arts of Decoration, Cooper Union, New York City.
*Hollick, Arthur, Director, Public Museum, Staten Island Association of Arts and Sciences, New Brighton, N. Y.
Holmes, William H., Curator, National Gallery of Art; Head Curator of Anthropology, United States National Museum, Washington, D. C.
Hood, Ida Richardson, Assistant Librarian, American Museum of Natural History, New York City.
*Hornaday, William T., Director, New York Zoological Park, New York City.
Hough, Walter, Curator of Ethnology, United States National Museum, Washington, D. C.
*Houston, S. F., Trustee, University of Pennsylvania, Philadelphia, Pa.
*Hovey, Edmund Otis, Curator, Department of Geology and Invertebrate Paleontology, American Museum of Natural History, New York City.
Howe, Marshall A., Curator of the Museums, New York Botanical Garden, New York City.
Howe, Winifred E., General Assistant, Metropolitan Museum of Art, New York City.
Howland, Henry R., Superintendent, Buffalo Society of Natural Sciences, Buffalo, N. Y.
Hoyle, William Evans, Director, National Museum of Wales, City Hall, Cardiff, Wales.
Hughes, D. C., Assistant, Section of Archeology and Ethnology, Carnegie Museum, Pittsburgh, Pa.

- Hutchinson, Charles L., President, The Art Institute of Chicago, Chicago, Ill.
Jackson, Margaret T., Late Assistant Director, Minneapolis Institute of Arts.
Address: 14 Shepard Street, Cambridge, Mass.
- Jackson, Robert T., Assistant Curator, in charge of Paleontological Collections,
Boston Society of Natural History, Boston, Mass.
- Jacobs, Mrs. Ophelia, Curator, Daniel B. Dyer Museum, Kansas City, Mo.
- James, Thomas A., Curator, Maine State Museum, Augusta, Me.
- *Jenkins, Lawrence W., Assistant Director, Peabody Museum, Salem, Mass.
- Jennings, Otto E., Curator of Botany, Carnegie Museum, Pittsburgh, Pa.
- *Johnson, Charles W., Curator, Boston Society of Natural History, Boston,
Mass.
- Johnston, R. A. A., Mineralogist and Curator, Geological Survey, Ottawa,
Ontario, Canada.
- Jones, Lynds, Curator, Zoological Museum, Oberlin College, Oberlin, Ohio.
- *Kahl, Paul Hugo Isidor, Custodian, Section of Entomology, Carnegie Museum,
Pittsburgh, Pa.
- Katzenberger, George A., Curator, Museum of Carnegie Library, Greenville, Ohio.
- Kendall, Alice W., Assistant, Newark Museum Association, Newark, N. J.
- Kent, Henry W., Secretary, Metropolitan Museum of Art, New York City.
- *Kermode, Francis, Curator, Provincial Museum, Victoria, British Columbia,
Canada.
- Kinnear, N. B., Bombay Natural History Society, Bombay, India.
- Kissell, Mary Lois, Formerly with American Museum of Natural History. Ad-
dress: 423 W. 120th Street, New York City.
- Knotts, Mrs. Minnie P., Secretary, State Historical Society, Lincoln, Neb.
- Kollock, Charles W., Secretary, The Charleston Museum, Charleston, S. C.
- Kroeber, Alfred L., Curator, Museum of Anthropology, University of Califor-
nia, San Francisco, Cal.
- *Kunz, George F., Honorary Curator of Gems, American Museum of Natural
History, New York City.
- *Lamb, Daniel Smith, Pathologist, Army Medical Museum, Washington, D. C.
- Lamson-Scribner, Frank, Expert on Exhibits, United States Department of
Agriculture, Washington, D. C.
- Langdon, Andrew, Vice-president, Buffalo Society of Natural Sciences. Address:
175 North Street, Buffalo, N. Y.
- Lewton, Frederick L., Curator, Division of Textiles, United States National
Museum, Washington. D. C.
- Libbey, William, Director, E. M. Museum, Princeton, N. J.
- Lindberg, Thure H., Snead & Company Iron Works, Jersey City, N. J.
- Littell, Hardin H., Board of Managers, Buffalo Society of Natural Sciences.
Address: 137 Summer Street, Buffalo, N. Y.
- *Lucas, Frederic A., Director, American Museum of Natural History, New York
City.
- Lucas, Jannette May, Assistant, Osborn Library of Vertebrate Paleontology,
American Museum of Natural History, New York City.
- McCornack, W. P., Architect, Board of Education, Cleveland, Ohio.
- *MacCurdy, George Grant, Curator, Section of Anthropology, Yale University
Museum, New Haven, Conn.

- Macdonald, Angus Snead, President, Snead & Company Iron Works, Jersey City, N. J.
- McIlvaine, Caroline M., Librarian and Curator, Chicago Historical Society, Chicago, Ill.
- Maddox, Robert D., Late Curator, Medical Museum, University of Cincinnati, Cincinnati, Ohio. Address: 4 West 7th Street.
- Madison, H. L., Curator, Park Museum, Providence, R. I.
- Magoon, Eva W., Assistant to the Curator, Park Museum, Providence, R. I.
- Matthew, W. D., Curator of Vertebrate Paleontology, American Museum of Natural History, New York City.
- Mengel, Levi W., Director, Reading Public Museum, Reading, Pa.
- *Mills, William C., Curator and Librarian, Ohio State Archæological and Historical Society, Ohio State University, Columbus, Ohio.
- Millspaugh, Charles F., Curator of Botany, Field Museum of Natural History, Chicago, Ill.
- *Miner, Roy W., Assistant Curator of Invertebrate Zoology, American Museum of Natural History, New York City.
- *Montgomery, Henry, Head Curator of the New General Museum, University of Toronto, Toronto, Ontario, Canada.
- Moorehead, Warren K., Curator, Department of Archæology, Phillips Academy, Andover, Mass.
- Morris, Mrs. Mary B., Docent, The Brooklyn Museum, Eastern Parkway, Brooklyn, N. Y.
- Morse, Albert P., Curator, Zoological Museum, Wellesley College, Wellesley, Mass.; Curator of Natural History, Peabody Museum, Salem, Mass.
- *Morse, Edward S., Director, Peabody Museum, Salem, Mass.
- Nichols, Henry W., Assistant Curator of Geology, Field Museum of Natural History, Chicago, Ill.
- Oliver, Maude I. G., Editor of the *Bulletin*, The Art Institute of Chicago, Chicago, Ill.
- Ortmann, Arnold E., Curator of Invertebrate Zoology, Carnegie Museum, Pittsburgh, Pa.
- Osgood, Wilfred H., Assistant Curator of Mammalogy and Ornithology, Field Museum of Natural History, Chicago, Ill.
- Owen, Thomas M., Director, Department of Archives and History, Montgomery, Alabama.
- Paarmann, J. H., Curator, Davenport Academy of Sciences, Davenport, Iowa.
- Paine, Clarence S., Secretary, Nebraska State Historical Society, Lincoln, Neb.¹
- Paull, Florence V., Assistant in charge of Western Art, Museum of Fine Arts, Boston, Mass.
- Peabody, Charles, Curator of European Archeology, Peabody Museum, Harvard University, Cambridge, Mass.
- Peaslee, Leon D., Curator of Education, Public Museum of the City of Milwaukee, Milwaukee, Wis.
- Perine, Clara N., Assistant to Director, The Wistar Institute of Anatomy, Philadelphia, Pa.

¹Died June 14, 1916

- *Peterson, Harry C., Director, Leland Stanford Junior Museum, Palo Alto, Cal.
- *Peterson, Olaf August, Field Collector and Preparator of Mammals and Birds, Carnegie Museum, Pittsburgh, Pa.
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Adams, Charles C. (*active*).
Baker, Frank C., Zoological Investigator (*active*).
Syracuse Museum of Fine Arts (*non-member*):
Baxter, Mrs. Blanche W., Docent (*associate*).

NORTH CAROLINA

RALEIGH:

- North Carolina State Museum (*non-member*):
Adickes, Thomas W., Assistant Curator (*active*).
Brimley, Herbert H., Curator (*active*).

NOVA SCOTIA

HALIFAX:

- Provincial Museum (*non-member*):
Piers, Harry, Curator (*active*).

OHIO

CINCINNATI:

- Cincinnati Museum (*sustaining*):
Gest, J. H., Director (*active*).
University of Cincinnati (*non-member*):
Fenneman, N. M., Professor of Geology (*active*).
Unattached:
Maddox, Robert D. (*active*).

CLEVELAND:

- Board of Education (*non-member*):
McCornack, W. P., Architect (*active*).
Cleveland Museum of Art (*sustaining*):
Gibson, Mrs. Emily J., In charge of Educational Work (*active*).
Whiting, Frederic Allen, Director (*active*).

COLUMBUS:

- Ohio State Archeological and Historical Society (*non-member*):
Mills, William C., Curator and Librarian (*active*).

GREENVILLE:

- Museum of Carnegie Library (*non-member*):
Katzenberger, George A., Curator (*active*).

OBERLIN:

- Oberlin College, Zoological Museum (*non-member*):
Jones, Lynds, Curator (*active*).

TOLEDO:

- Toledo Museum of Art (*sustaining*):
Stevens, George W., Director (*active*).

ONTARIO

OTTAWA:

Geological Survey of Canada (*sustaining*):

Johnston, R. A. A., Mineralogist and Curator (*active*).

Smith, Harlan I., Archeologist (*active*).

Unattached:

Ami, Henry M., Strathcona Park (*active*).

TORONTO:

University of Toronto (*non-member*):

Montgomery, Henry, Head Curator of New General Museum (*active*).

OREGON

PORTLAND:

Portland Art Association (*non-member*):

Crocker, Anna B., Curator (*active*).

Unattached:

Failing, Henrietta H. (*active*).

PENNSYLVANIA

ARDMORE:

Unattached:

Townsend, Louis H., Osteologist (*active*).

ERIE:

Erie Public Museum (*non-member*):

Austin, Thomas L., Curator (*active*).

HARRISBURG:

Pennsylvania State Museum (*sustaining*):

Rothrock, Boyd P., Curator (*active*).

Rothrock, Mrs. Boyd P., Accessionist and Foliage Worker (*active*).

PHILADELPHIA:

Academy of Natural Sciences of Philadelphia (*sustaining*):

Stone, Witmer, Curator (*active*).

Museum of the Grand Lodge of F. and A. M. of Pennsylvania (*sustaining*):

Sachse, Julius F., Curator and Librarian (*active*).

Pennsylvania Museum and School of Industrial Art (*sustaining*):

Barber, Edwin AtLee, Director of Museum (*active*).

The Philadelphia Museums (*sustaining*):

Connor, Thomas J., Assistant (*associate*).

Fisher, William L., Assistant Curator (*active*).

Schiele, Rudolph M., Assistant (*associate*).

Schoff, Wilfred H., Secretary and Assistant Treasurer (*active*).

Toothaker, Charles R., Curator (*active*).

Wilson, W. P., Director (*active*).

University of Pennsylvania, University Museum (*sustaining*):

Gordon, G. B., Director (*active*).

Houston, S. F., Trustee (*active*).

Wagner Free Institute of Science (*non-member*):

Rothermel, John G., Director (*active*).

The Wistar Institute of Anatomy (*non-member*):

Greenman, Milton J., Director (*active*).

Perine, Clara N., Assistant to Director (*active*).

Unattached:

Foote, Warren M., Mineralogist (*active*).

PITTSBURGH:

Carnegie Institute, Department of Fine Arts (*non-member*):

Beatty, John W., Director (*active*).

Redd, May, Assistant in Educational Work (*active*).

Carnegie Institute, Department of the Museum (*sustaining*):

Agostini, Serafino, Assistant Preparator, Department of Paleontology (*active*).

Atkinson, D. A., Custodian of Reptiles (*active*).

Coggeshall, Arthur S., Preparator-in-chief, Department of Paleontology (*associate*).

Coggeshall, Louis, Preparator, Department of Paleontology (*associate*).

Courtney, Mrs. Addison, Assistant (*associate*).

Eigenmann, Carl H., Curator of Ichthyology (*active*).

Holland, W. J., Director (*life*).

Hughes, D. C., Assistant, Section of Archeology and Ethnology (*active*).

Jennings, Otto E., Curator of Botany (*active*).

Kahl, Paul Hugo Isidor, Custodian, Section of Entomology (*active*).

Ortmann, Arnold E., Curator of Invertebrate Zoology (*active*).

Peterson, Olaf August, Field Collector and Preparator of Mammals and Birds (*active*).

Prentice, Sydney, Artist and Illustrator (*active*).

Santens, Remi H., Chief Preparator, Taxidermic Laboratory (*active*).

Sterki, Victor, Assistant in Conchology (*active*).

Stewart, Douglas, Assistant to Director (*active*).

READING:

Reading Public Museum (*non-member*):

Mengel, Levi W., Director (*active*).

RHODE ISLAND

PROVIDENCE:

Park Museum (*sustaining*):

Madison, H. L., Curator (*active*).

Magoon, Eva W., Assistant to the Curator (*active*).

Rhode Island School of Design (*non-member*):

Rowe, Louis Earle, Director (*active*).

SASKATCHEWAN

REGINA:

Provincial Museum, Department of Agriculture (*sustaining*)

SOUTH CAROLINA

CHARLESTON:

- The Charleston Museum (*sustaining*):
Kollock, Charles W., Secretary (*active*).
Rea, Paul M., Director (*active*).
Sharpe, Jesse, Treasurer (*active*).
Stoney, Samuel G., President (*active*).
Weeks, Laura L., Secretary to the Director and Assistant Treasurer (*active*).

TEXAS

AUSTIN:

- Bureau of Economic Geology (*non-member*):
Udden, J. A., Director (*active*).

UTAH

SALT LAKE CITY:

- Deseret Museum (*sustaining*):
Talmage, James E., Director (*life*).

VERMONT

ST. JOHNSBURY:

- The Fairbanks Museum of Natural Science (*sustaining*).

WALES

CARDIFF:

- National Museum of Wales (*non-member*):
Hoyle, William Evans, Director (*active*).

WASHINGTON

SEATTLE:

- University of Washington, State Museum (*non-member*):
Albrecht, Clarence J., Director of Vertebrate Exhibits (*active*).
Hall, F. S., Curator (*active*).

WISCONSIN

MADISON:

- Forest Products Laboratory (*non-member*):
Gerry, Eloise, Committee on Museum Exhibits (*associate*).
State Historical Museum of Wisconsin (*non-member*):
Brown, Charles E., Chief (*active*).

MILWAUKEE:

- Public Museum of the City of Milwaukee (*sustaining*):
Barrett, S. A., Curator of Anthropology (*active*).
Brah, Bernard H., Assistant, Department of Anthropology (*active*).
Clowes, Herbert, Landscape Modeler (*life*).
Peaslee, Leon D., Curator of Education (*active*).
Plambeck, R., Photographer (*active*).
Pope, T. E. B., Associate Lecturer (*active*).
Rohde, Paul C., Assistant Taxidermist (*active*).
Shrosbree, George, Chief Taxidermist (*active*).
Ward, Henry L., Director (*active*).

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